



ENGLISH

DEUTSCH

FRANÇAIS

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ESPAÑOL

РУССКИЙ

中文

LCD DISPLAY MONITOR

BEDIENUNGSANLEITUNG:

MANUEL D'INSTRUCTIONS:

ISTRUZIONI:

MANUAL DE INSTRUCCIONES:

ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ:

使用说明书:

LCD-DISPLAYMONITOR

MONITEUR LCD

SCHERMO A CRISTALLI LIQUIDI

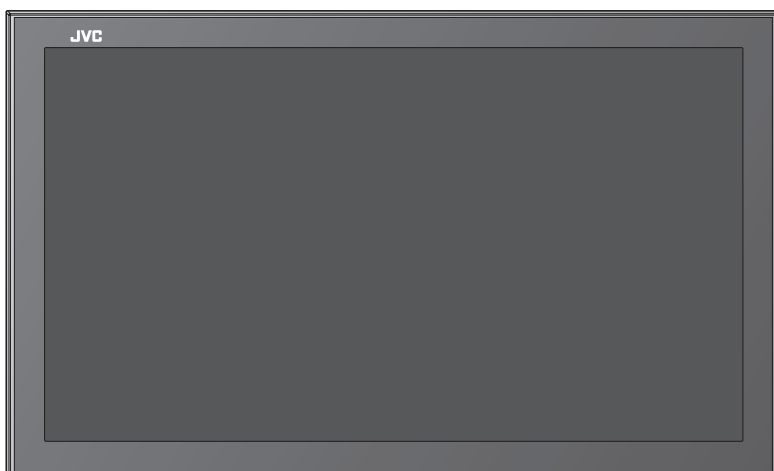
MONITOR PANTALLA LCD

МОНИТОР С ЖК-ДИСПЛЕЕМ

LCD 显示器

GM-H40L2A

INSTRUCTIONS



LCT1943-002A

Dear Customer,**ENGLISH**

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of Victor Company of Japan Limited. is:
JVC Technology Centre Europe GmbH
P.O. Box 10 05 52
61145 Friedberg
Germany

Sehr geehrter Kunde, sehr geehrte Kundin,**DEUTSCH**

dieses Gerät stimmt mit den gültigen europäischen Richtlinien und Normen bezüglich elektromagnetischer Verträglichkeit und elektrischer Sicherheit überein.

Die europäische Vertretung für die Victor Company of Japan Limited ist:
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Cher(e) client(e),**FRANÇAIS**

Cet appareil est conforme aux directives et normes européennes en vigueur concernant la compatibilité électromagnétique et à la sécurité électrique.

Représentant européen de la société Victor Company of Japan Limited :
JVC Technology Centre Europe GmbH
Postfach 10 05 52
61145 Friedberg
Allemagne

Gentile Cliente,**ITALIANO**

Questa apparecchiatura è conforme alle direttive e alle norme europee relative alla compatibilità elettromagnetica e alla sicurezza elettrica.

Il rappresentante europeo della Victor Company di Japan Limited è:
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Germania

Apreciado cliente,**ESPAÑOL**

Este aparato cumple con las normativas y normas europeas respecto a la seguridad eléctrica y a la compatibilidad electromagnética.

El representante europeo de Victor Company of Japan Limited es:
JVC Technology Centre Europe GmbH
Postfach 10 05 52
61145 Friedberg
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Уважаемый клиент.**РУССКИЙ**

Данное устройство соответствует действительным Европейским директивам и стандартам по электромагнитной совместимости и электрической безопасности.

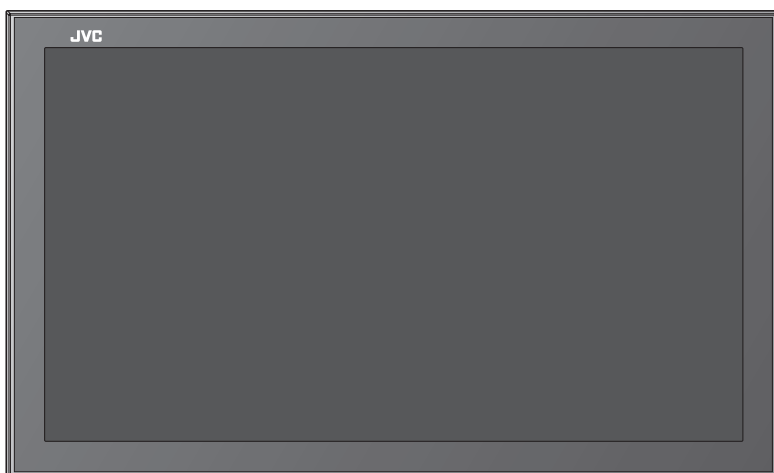
Представительство компании Victor Company of Japan Limited в Европе:
JVC Technology Centre Europe GmbH
Postfach 10 05 52
61145 Friedberg
Германия



LCD DISPLAY MONITOR

GM-H40L2A

INSTRUCTIONS



Safety Precautions

IMPORTANT INFORMATION

WARNING: TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

IMPORTANT SAFEGUARDS

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD.** In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use, and service. Please read these "IMPORTANT SAFEGUARDS" carefully before use.

- All the safety and operating instructions should be read before the product is operated.
- The safety and operating instructions should be retained for future reference.
- All warnings on the product and in the operating instructions should be adhered to.
- All operating instructions should be followed.

POWER CONNECTION

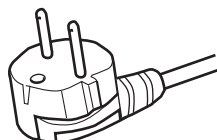
The power supply voltage rating of this product is AC 120 V (For U.S.A. and Canada only) and AC 220 – 240 V (For European and Asian countries or United Kingdom).

The power cord attached conforms to the following power supply voltage and countries. Use only the power cord designated to ensure safety and EMC regulations of each countries.

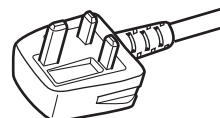
For U.S.A. and Canada:
AC 120 V



For European and Asian countries:
AC 220 – 240 V



For United Kingdom:
AC 220 – 240 V



This plug will fit only into a grounded power outlet. If you are unable to insert the plug into the outlet, contact your electrician to install the proper outlet. Do not defeat the safety purpose of the grounded plug.

- This product should be operated only with the type of power source indicated on the label. If you are not sure of the type of power supply of your home, consult your product dealer or local power company.

Warning:

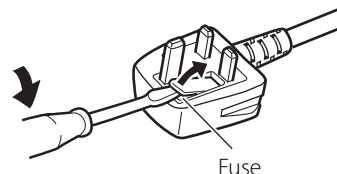
- Do not use the same power cord for AC 120 V as for AC 220 – 240 V. Doing so may cause malfunction, electric shock or fire.

Note for United Kingdom power cord only

The plug on United Kingdom power cord has a built-in fuse. When replacing the fuse, be sure to use only a correctly rated approved type, re-fit the fuse cover. (Consult your dealer or qualified personnel.)

How to replace the fuse

Open the fuse compartment with the blade screw driver, and replace the fuse.



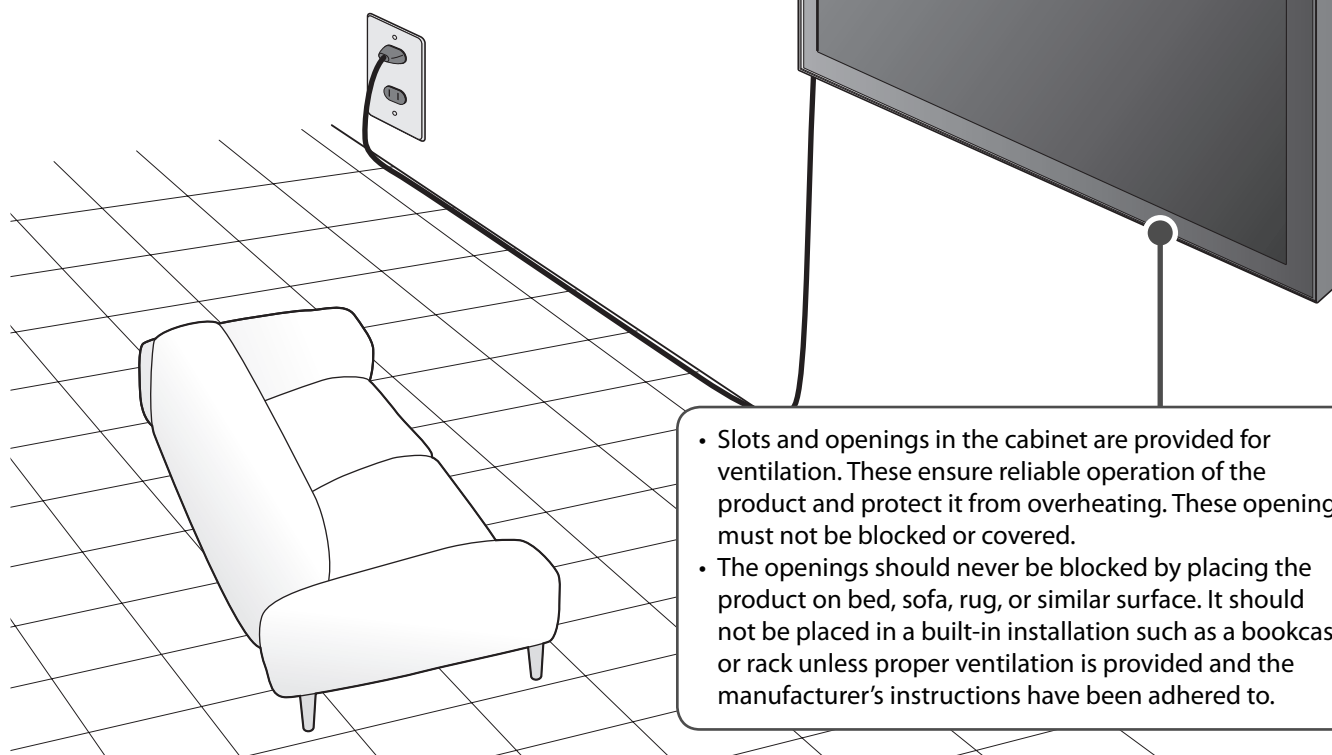
Under the following conditions,

- 1. Turn off the power.**
- 2. Unplug this product from the wall outlet.**
- 3. Refer service to qualified service personnel.**

- a) When the product emits smoke or unusual smell.
- b) When the product exhibits a distinct change in performance—for example, no picture or no sound.
- c) If liquid has been spilled, or objects have fallen on the product.
- d) If the product has been exposed to rain or water.
- e) If the product has been dropped or damaged in any way.
- f) When the power supply cord or plug is damaged.

- Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
- Never spill liquid of any kind on the product.

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltages and other hazards. Refer all service to qualified service personnel.



- Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation of the product and protect it from overheating. These openings must not be blocked or covered.
- The openings should never be blocked by placing the product on bed, sofa, rug, or similar surface. It should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.

- Do not use this product near water.
- Do not use immediately after moving from a low temperature to high temperature, as this causes condensation, which may result in a fire, electric shock, or other hazards.
- For proper heat dissipation, keep enough space around the monitor (see page 10).
This product may become hot during use. To avoid overheating, keep enough space around the product and take enough care when handling the product.

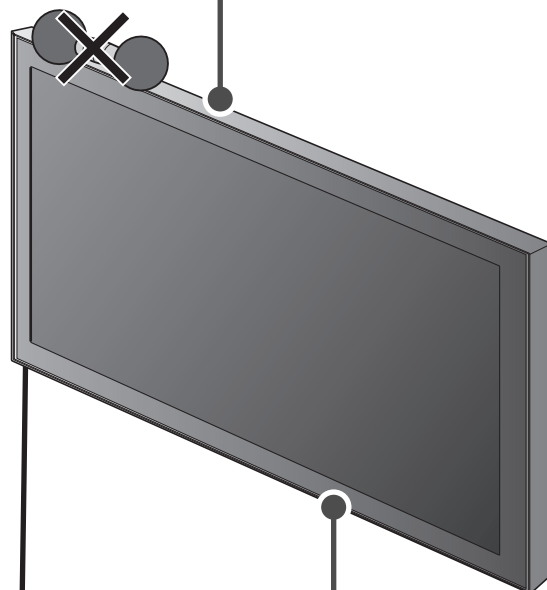
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. The product should be mounted according to the manufacturer's instructions, and should use a mount recommended by the manufacturer.
- When the product is used on a cart, care should be taken to avoid quick stops, excessive force, and uneven surfaces which may cause the product and cart to overturn, damaging equipment or causing possible injury to the operator.



Safety Precautions (cont.)

- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at doors, plugs, receptacles, and the point where they exit from the product.
- When the product is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system.
- Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.
- Use only the accessory cord designed for this product to prevent shock.

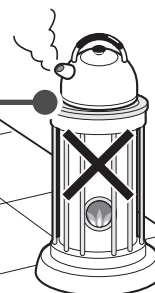
- Do not put heavy objects on the product.
- Do not get on or hang on the product.



This product is equipped with a cooling fan. Do not place combustibles behind the product. For example, cloth, paper, matches, aerosol cans or gas lighters that present special hazards when over heated.

Do not install this product in the following places:

- in a damp or dusty room
- where the product is exposed to soot or steam, such as near the cooking counter or a humidifier
- near heat sources
- where condensation easily occurs, such as near the window



- When connecting other products such as VCR's and personal computers, you should turn off the power of this product for protection against electric shock.
- Do not use attachments not recommended by the product manufacturer as they may be hazardous.

- **When replacement parts are required**, be sure the service technician has used replacement parts specified by the manufacturer or with same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- **Upon completion of any service or repairs to this product**, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Maintenance

Unplug this product from the wall outlet before cleaning.

Screen

To avoid irreparable change in appearance of the screen such as uneven color, discoloration, scratches, be careful about the following:

- Do not paste or stick anything with any glues or adhesive tapes.
- Do not write anything on the screen.
- Do not strike the screen with a hard object.
- Avoid condensation on the screen.
- Do not wipe the screen with solvent such as alcohol, thinner, or benzene.
- Do not wipe the screen hard.

If the screen gets stained, wipe it with a soft dry cloth, a soft damp cloth, or a soft cloth soaked in water-diluted neutral detergent and wrung well.

Cabinet

To avoid the deterioration or damages of the cabinet such as its paint's peeling away, be careful about the following:

- Do not wipe the cabinet using solvent such as alcohol, thinner, or benzene.
- Do not expose the cabinet to any volatile substance such as insecticides.
- Do not remain any rubber or plastic in contact for a long time.
- Do not wipe the cabinet hard.

Wipe stains off the cabinet with a soft cloth. If the cabinet gets heavily stained, wipe it with a soft cloth soaked in water-diluted neutral detergent and wrung well, and then wipe with a soft dry cloth.

Ventilation openings

- Use a vacuum cleaner to get rid of the dust around the intakes (all the openings) on the rear. If a vacuum cleaner is not available, use a cloth and wipe it off. Leaving the dust around the intakes may prevent proper temperature control and cause damage to the product.

Information for Users on Disposal of Old Equipment



[European Union]

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.

By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

[Business users]

If you wish to dispose of this product, please visit our web page www.jvc-europe.com to obtain information about the take-back of the product.

[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

Attention:

This symbol is only valid in the European Union.

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Checking the accessories

The following accessories are included with the monitor. Check for them. If any item is missing, please contact the dealer where you have purchased the monitor.

- Remote control (RM-C2006)
- Power cord x 1
- Batteries (AA/R6) x 2
- Ferrite cores x 2

NOTE

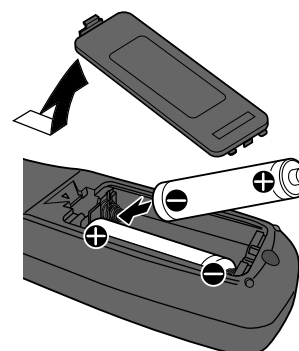
- Be sure to attach the supplied ferrite cores to the speaker cords when using external speakers to reduce interference from the monitor on external equipment (see page 11).

Inserting the batteries

Use two AA/R6 dry cell batteries.

Insert the batteries from the ⊖ end, making sure the ⊕ and ⊖ polarities are correct.

- Follow the warnings printed on the batteries.
- Battery life is about six months to one year, depending on how much you use the remote control.
- The batteries we supply are only for setting up and testing your monitor, please replace them as soon as you need to.
- If the remote control does not work properly, replace the batteries.



Parts Identification

Remote control

ENGLISH

POWER OFF button

Turns off the monitor (see page 16).

SET-UP button

Displays the set-up menu (see page 19).

MENU/EXIT button

Displays the main menu (see page 19).

PICTURE MODE buttons

Changes the picture mode (see page 18).

DUAL DISPLAY buttons

Activates/deactivates the dual display mode (see page 18).

AUDIO MODE buttons

VOLUME +/- buttons

Adjusts the volume level (see page 16).

MUTING button

Turns off the volume immediately (see page 16).

POWER ON button

Turns on the monitor (see page 16).

ASPECT button

Changes the aspect ratio (see page 17).

DISPLAY button

Displays the information of the current input (see page 17).

▲▼◀▶ buttons

Operates the menu (see page 19).

OK button

Enters the password for the Security Lock (see page 32).

INPUT SELECT buttons

Selects the input (see page 16).

A (VIDEO) button

Selects the input to the VIDEO IN A terminal (Input A).

B (RGB/COMPO./DVI) button

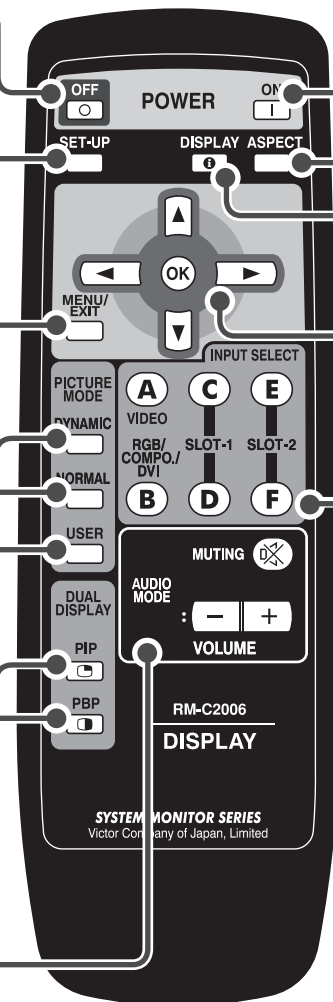
Selects the input to the VIDEO IN B terminal (Input B).

C, D (SLOT-1) buttons

Selects the input to the optional input card inserted in the slot 1 (Input C/D).

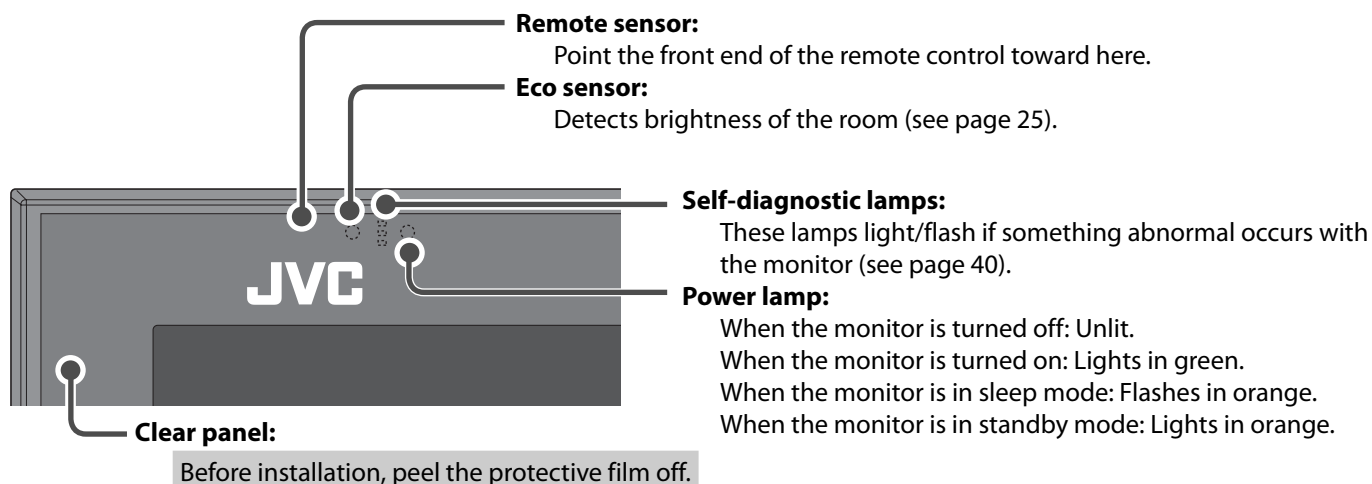
E, F (SLOT-2) buttons

Selects the input to the optional input card inserted in the slot 2 (Input E/F).

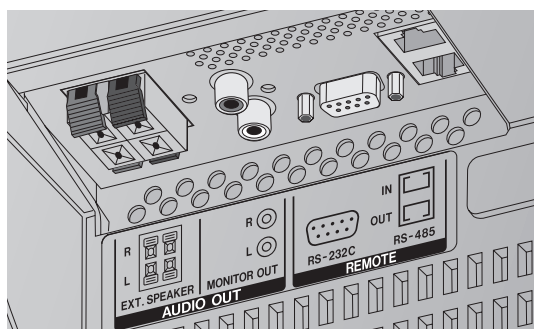
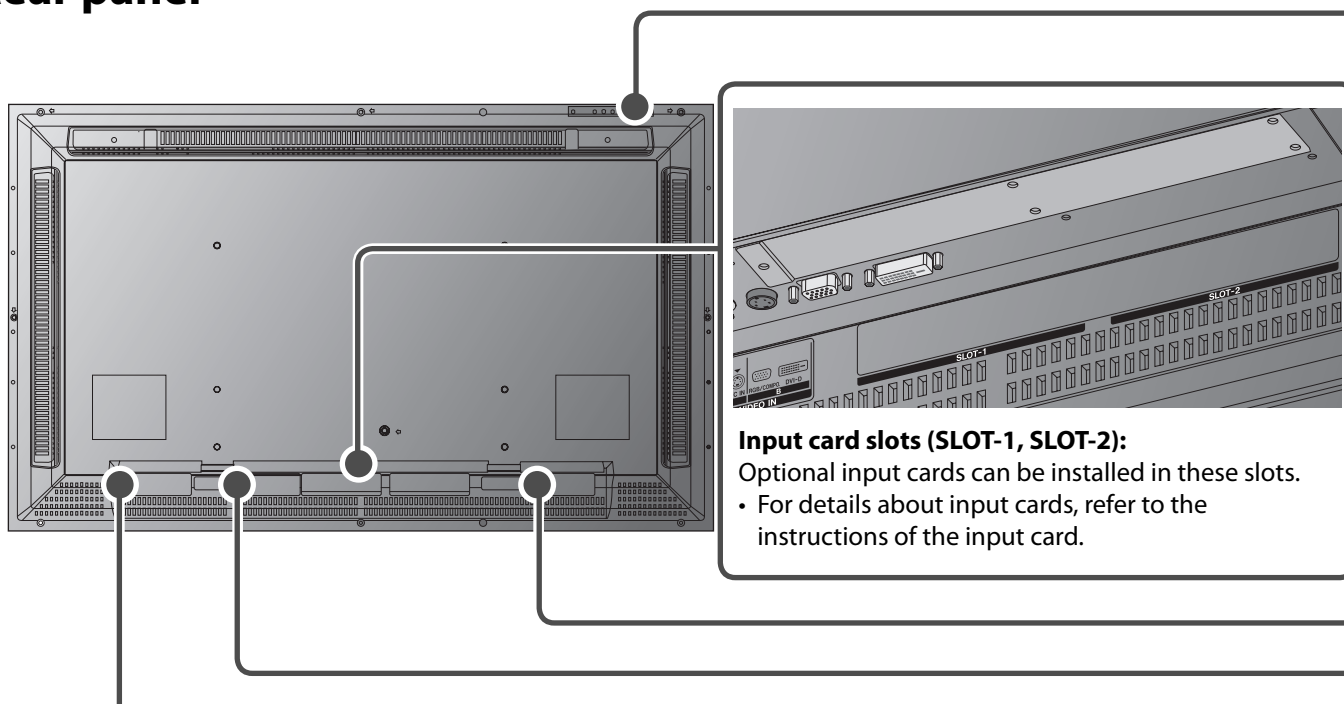


Parts Identification (cont.)

Front panel



Rear panel



AUDIO OUT terminals

Connect external speakers or audio equipment.

EXT. SPEAKER terminal: Connect external speakers (commercially available) (see page 11).

- To use this terminal, set "SPEAKER SELECT" on the main menu to "EXT. (external)" (see page 23).

MONITOR OUT terminals: Connect to the audio input terminals of audio equipment such as an amplifier (see page 14).

REMOTE terminals

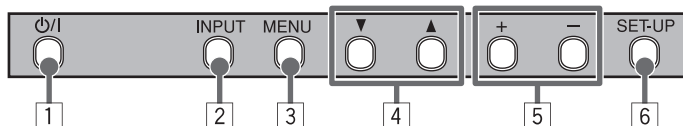
Connect external control equipment (see pages 14, 33 to 37).

RS-232C terminal: Connect to the RS-232C terminal of a personal computer.

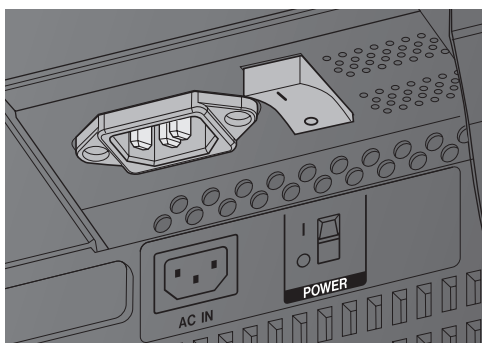
RS-485 terminals:

IN terminal: Connect external control equipment.

OUT terminal: Connect another component to send out the control signal coming into the IN terminal (cascade connection).



- 1 **⏻ (Power) button:** Turns the monitor on/off (see page 16).
- 2 **INPUT button:** Changes inputs (see page 16).
- 3 **MENU button:** Displays the main menu (see page 19).
- 4 **▲/▼ buttons:** Selects an item on the menu (see page 19).
- 5 **+/- buttons:** Adjusts the volume level (see page 16).
 - When the menu is displayed, adjusts the value (see page 19).
- 6 **SET-UP button:** Displays the set-up menu (see page 19).

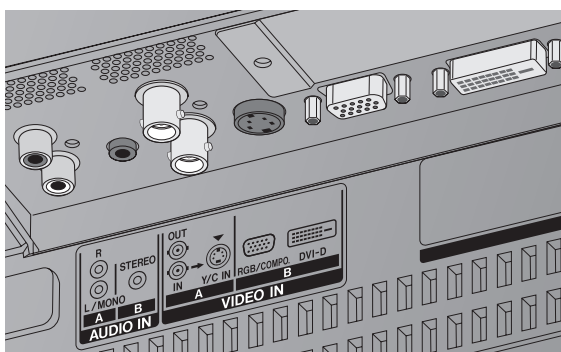


AC IN terminal:

Connect the supplied power cord (see page 15).

POWER switch:

- I:** Turns on the main power. (The power can be controlled by POWER ON/OFF buttons on the remote control or ⏻/I button on the main unit.)
- O:** Turns off the main power.



AUDIO IN A/B terminals

Connect audio output terminals of equipment such as a VCR (see page 15).

AUDIO IN A terminal

R, L/MONO terminals (pin jack):

Connect to the audio output terminals of the equipment connected to the VIDEO IN A terminal. (Connect only the L/MONO terminal for monaural sound.)

AUDIO IN B terminal

STEREO terminal (stereo mini jack):

Connect to the audio output terminals of the equipment connected to the VIDEO IN B terminal.

VIDEO IN A/B terminals

Connect video output terminals of equipment such as a VCR (see page 15).

VIDEO IN A terminal

IN terminal (BNC): Connect to the video output terminals of playback equipment such as a VCR.

OUT terminal (BNC): Connect to the video input terminal of another monitor, etc.

Y/C IN terminal (Y/C): Connect to the S-video output terminal of playback equipment such as a VCR.

- When both IN terminal and Y/C IN terminal are used, the input to the Y/C IN terminal has priority.

VIDEO IN B terminal

RGB/COMPO. terminal (D-sub 15-pin)*1: Connect to the video output terminal of a personal computer or playback equipment such as a VCR*2.

DVI-D terminal (DVI-D)*1: Connect to the digital output terminal of a personal computer.

*1 When connecting to a personal computer, use a cable with ferrite cores and no longer than of 3 m to avoid electromagnetic disturbance.

*2 You may need a conversion cable (commercially available).

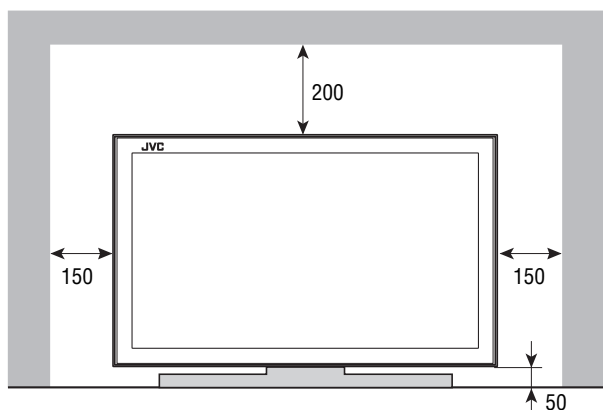
Installation

Precautions

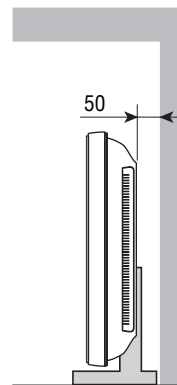
- Before installation, peel the protective film off from the clear panel attached to the front panel.
- When installing the monitor, be sure to use a dedicated stand unit or wall mounting unit, depending on your particular case. Ask your dealer to install.
- When installing the monitor in a special way (for example, installing it diagonally), consult your dealer.
- Route the power cord and connection cables along the wall or floor corners to avoid walking on them.
- For good heat dissipation, try to leave the following distance of space (minimum) around the monitor (see diagram below).
- The ambient temperature of the installation place should be within the range of 0°C to 40°C (slightly variable depending on ambient conditions for installation).
- When installing the monitor near the ceiling or similar location, the remote control may not work correctly because of possible effects, such as reflections, from the surroundings. If this happens, move the monitor where it is free from these effects.
- Do not install the monitor in such a way that the monitor and other AV equipment affect each other adversely. (For example, if a disturbed image or noise due to electromagnetic interference occurs, or if the infrared remote control malfunctions, change the installation place.)

When installing the monitor on a stand

Front view



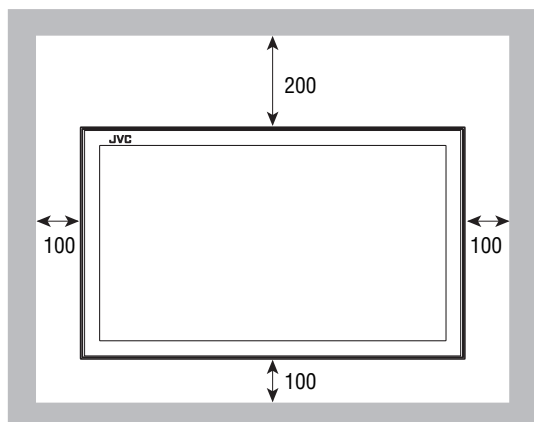
Side view



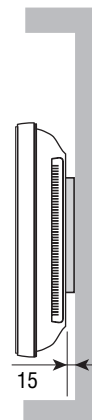
Unit: mm

When mounting the monitor on the wall

Front view



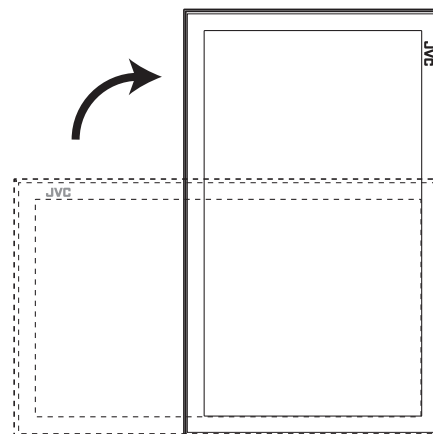
Side view



Unit: mm

When installing the monitor vertically

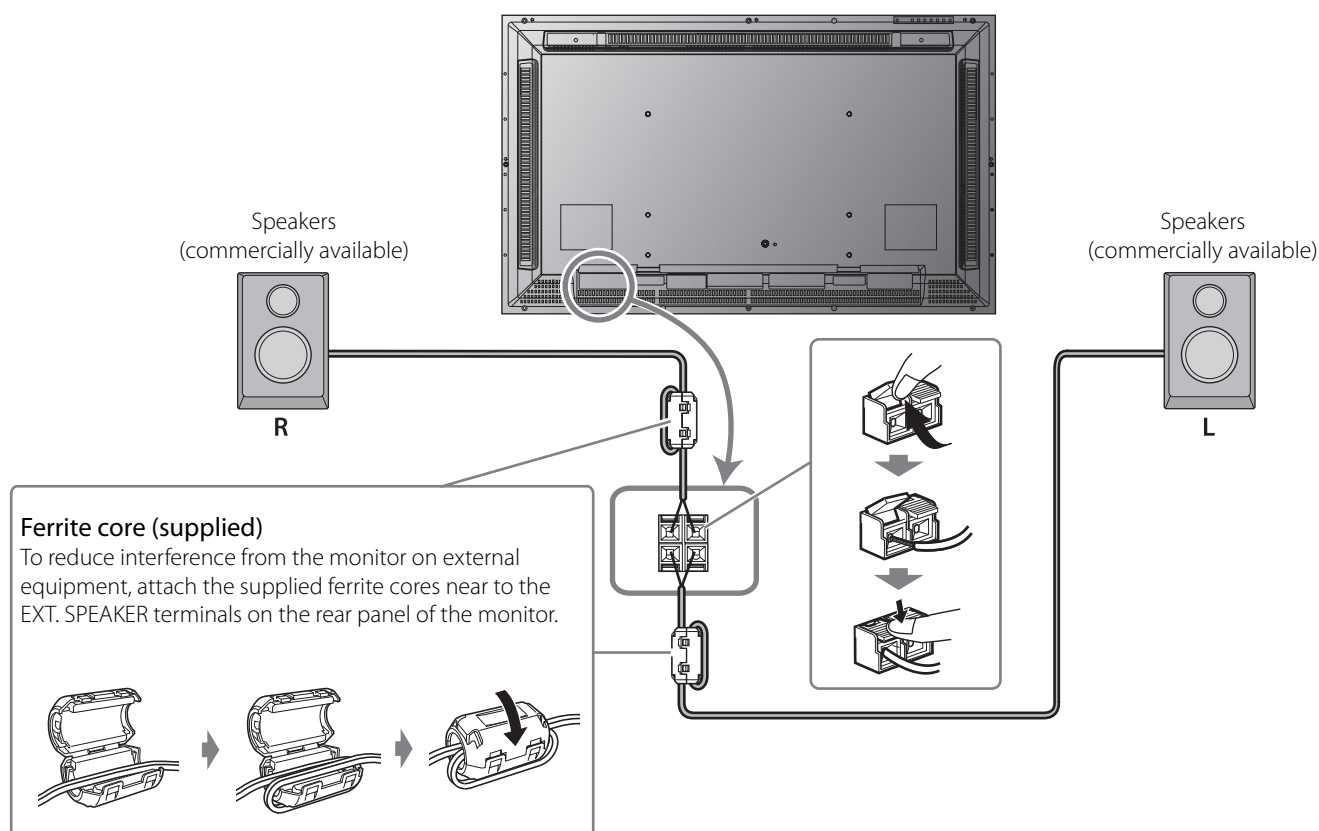
- Make sure to install the monitor in the direction illustrated on the right.
- Set the speed of the internal cooling fan to "HIGH" (see "COOLING MODE" on page 31).



Connecting external speakers

You can connect commercial speakers of the following specifications to the EXT. SPEAKER terminal:

- Impedance: Between 6 Ω and 8 Ω
- Power handling capacity: More than 3 W



CAUTION

- Do not short-circuit $\oplus$ and $\ominus$ speaker cords to each other. (Refer also to the instructions supplied with the speakers.)

NOTE

- When using the external speakers, set "SPEAKER SELECT" on the main menu to "EXT. (external)" (see page 23).

Available signals

The following signals can be input to this monitor.

Video signals

Terminal		Available signals
VIDEO IN A terminals		NTSC, PAL, SECAM, PAL60, NTSC4.43, PAL M, PAL N, BW (50 Hz/60 Hz)
VIDEO IN B (RGB/COMPO.) terminal	Component signals	480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i (1035/60i)* ¹ , 1080/50i, 1080/24psF
	RGB signals	15 kHz/50 Hz* ² , 15 kHz/60 Hz* ²

*¹ Select an appropriate setting for High-Definition signal (see "1080/1035" on page 25).

*² Interlace signals only

Computer signals (Preset)

VIDEO IN B (RGB/COMPO., DVI-D) terminals

No.	Signal name	Screen resolution		Horizontal frequency (kHz)	Vertical frequency (Hz)	Scan system	Input terminal	
		Horizontal	Vertical				RGB/COMPO.	DVI-D
1	PC98	640	400	24.8	56.4	Non-interlace	√	—
2	VGA400/70	640	400	31.5	70.1	Non-interlace	√	—
3	VGA60	640	480	31.5	59.9	Non-interlace	√	√
4	WVGA60	852	480	31.5	59.9	Non-interlace	√	√
5	VGA72	640	480	37.9	72.8	Non-interlace	√	—
6	SVGA60	800	600	37.9	60.3	Non-interlace	√	√
7	XGA60	1024	768	48.4	60.0	Non-interlace	√	√
8	WXGA60	1366	768	48.4	60.0	Non-interlace	√	√
9	WXGA (1280)	1280	768	47.8	60.0	Non-interlace	√	√
10	WXGA (1360)	1360	768	47.7	60.0	Non-interlace	—	√
11	1280 * 720	1280	720	44.8	60.0	Non-interlace	√	√
12	XGA70	1024	768	56.5	70.1	Non-interlace	√	—
13	XGA75	1024	768	60.0	75.0	Non-interlace	√	—
14	XGA85	1024	768	68.7	85.0	Non-interlace	√	—
15	XGA+75* ³	1152	864	67.5	75.0	Non-interlace	√	—
16	SXGA60* ³	1280	1024	64.0	60.0	Non-interlace	√	√
17	SXGA75* ³	1280	1024	80.0	75.0	Non-interlace	√	—
18	SXGA+60* ³	1400	1050	64.0	60.0	Non-interlace	√	√
19	SXGA+60* ³	1400	1050	65.2	60.0	Non-interlace	√	√
20	UXGA60* ³	1600	1200	75.0	60.0	Non-interlace	√	—
21	MAC13	640	480	35.0	66.7	Non-interlace	√	—
22	MAC16	832	624	49.7	74.6	Non-interlace	√	—
23	MAC19	1024	768	60.2	74.9	Non-interlace	√	—
24	MAC21* ³	1152	870	68.7	75.1	Non-interlace	√	—

√: Acceptable

—: Not acceptable

*³ When No. 15 to No. 20 and No. 24 signals are input, thin lines may become obscured because their signal frequencies are higher than the screen resolution.

Note for VIDEO IN A (IN, Y/C IN) terminals

When both IN terminal and Y/C IN terminal are used, the input to the Y/C IN terminal has priority.

Note for VIDEO IN B (RGB/COMPO., DVI-D) terminals

Select the correct input for Input B on the main menu (see "INPUT CONFIGURATION" on page 23).

- When RGB signals are input to the RGB/COMPO. terminal: Set "INPUT B" to "ANALOG RGB."
- When component signals are input to the RGB/COMPO. terminal: Set "INPUT B" to "COMPONENT."
- When using the DVI-D terminal: Set "INPUT B" to "DVI."

Note for component signals

- The monitor is compatible only with Y on sync signals. The monitor is not compatible with composite sync (Cs) and separated sync (HD/VD) signals.

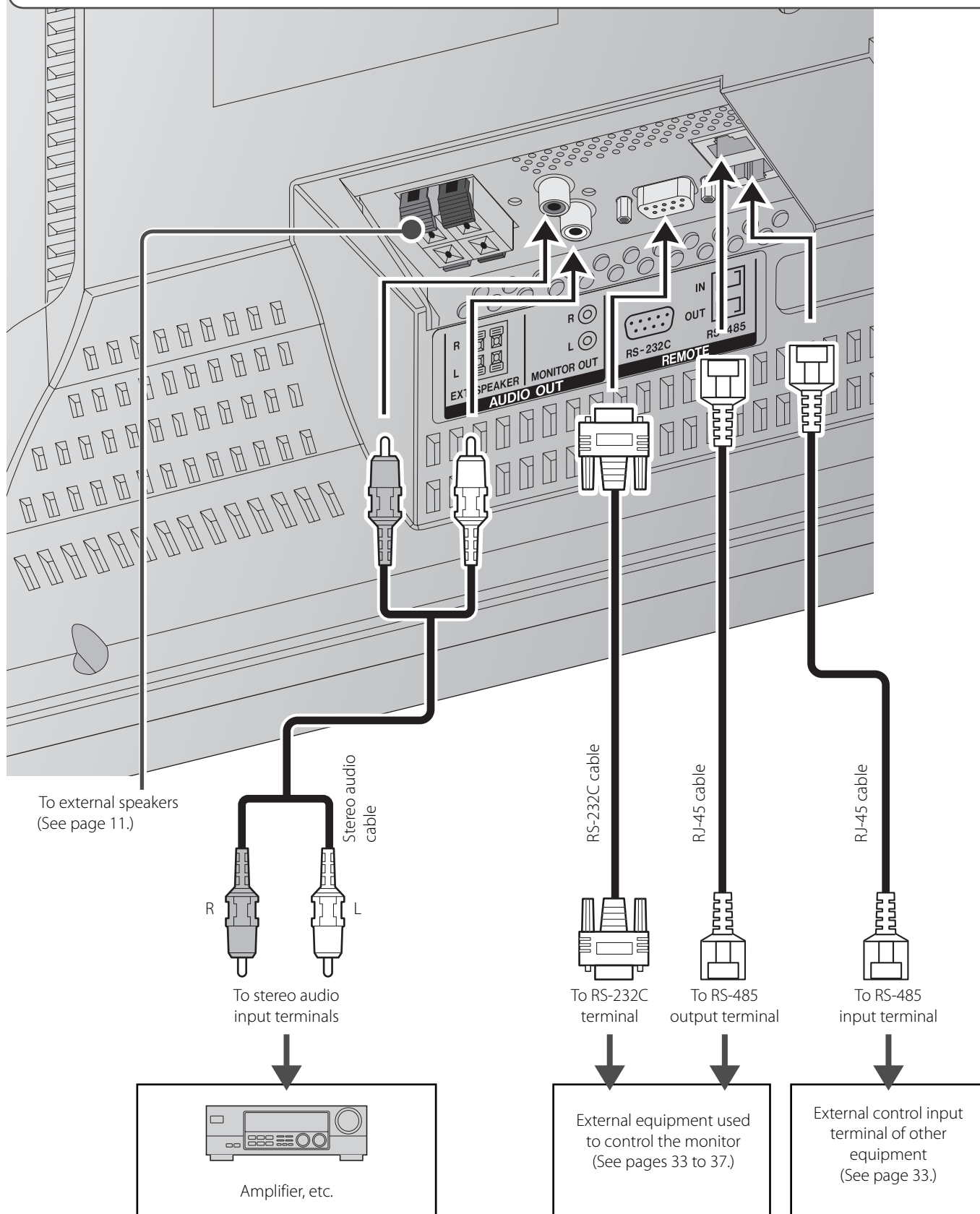
Note for computer signals

- When analog RGB signals are input, part of the picture may not be displayed or an unnecessary picture may appear in the following cases. Adjust size and position in the "SIZE SETTING" menu (see page 21).
 - When a signal other than those listed on page 12 is input
 - When the horizontal/vertical frequency of the signal is different though its resolution is the same as that of the signals listed on page 12
 - When the resolution of the signal output from the personal computer is different from that set for the personal computer's display.
- Any signal other than those listed on page 12 may not be displayed normally although its frequency is within the acceptable range.
- Depending on the connected equipment, the monitor may not be compatible with composite sync (Cs) or G on sync signals.
- When a preset mode signal is input, the signal format is displayed on the screen. For other signals, the horizontal/vertical frequency or resolution is displayed.
- The DVI-D terminal can accept only No. 3, 4, 6 – 11, 16, 18, and No. 19 signals.
- When the No. 3 and No. 7 signals are input, set the video card of the personal computer to "640 x 480" (for No. 3 signal)/"1024 x 768" (for No. 7 signal). For analog RGB input, also set "SAMPLING MODE" to "STD" on the set-up menu (see page 31).
- When the No. 4 and No. 8 signals are input, set the video card of the personal computer to "852 x 480" (for No. 4 signal)/"1366 x 768" (for No. 8 signal). For analog RGB input, also set "SAMPLING MODE" to "WIDE" on the set-up menu (see page 31), and then change the aspect ratio to "FULL" (see pages 17 and 21).
- When No. 15 to No. 20 and No. 24 signals are input, thin lines may become obscured because their signal frequencies are higher than the screen resolution.
- When the No. 16 signal is input, set the video card of the personal computer to "1280 x 1024." For analog RGB input, also set "SXGA/SXGA+" to "SXGA" on the set-up menu (see page 31).
- When the No. 18 and No. 19 signals are input, set the video card of the personal computer to "1400 x 1050." For analog RGB input, also set "SXGA/SXGA+" to "SXGA+" on the set-up menu (see page 31).

Connections (cont.)

CAUTION

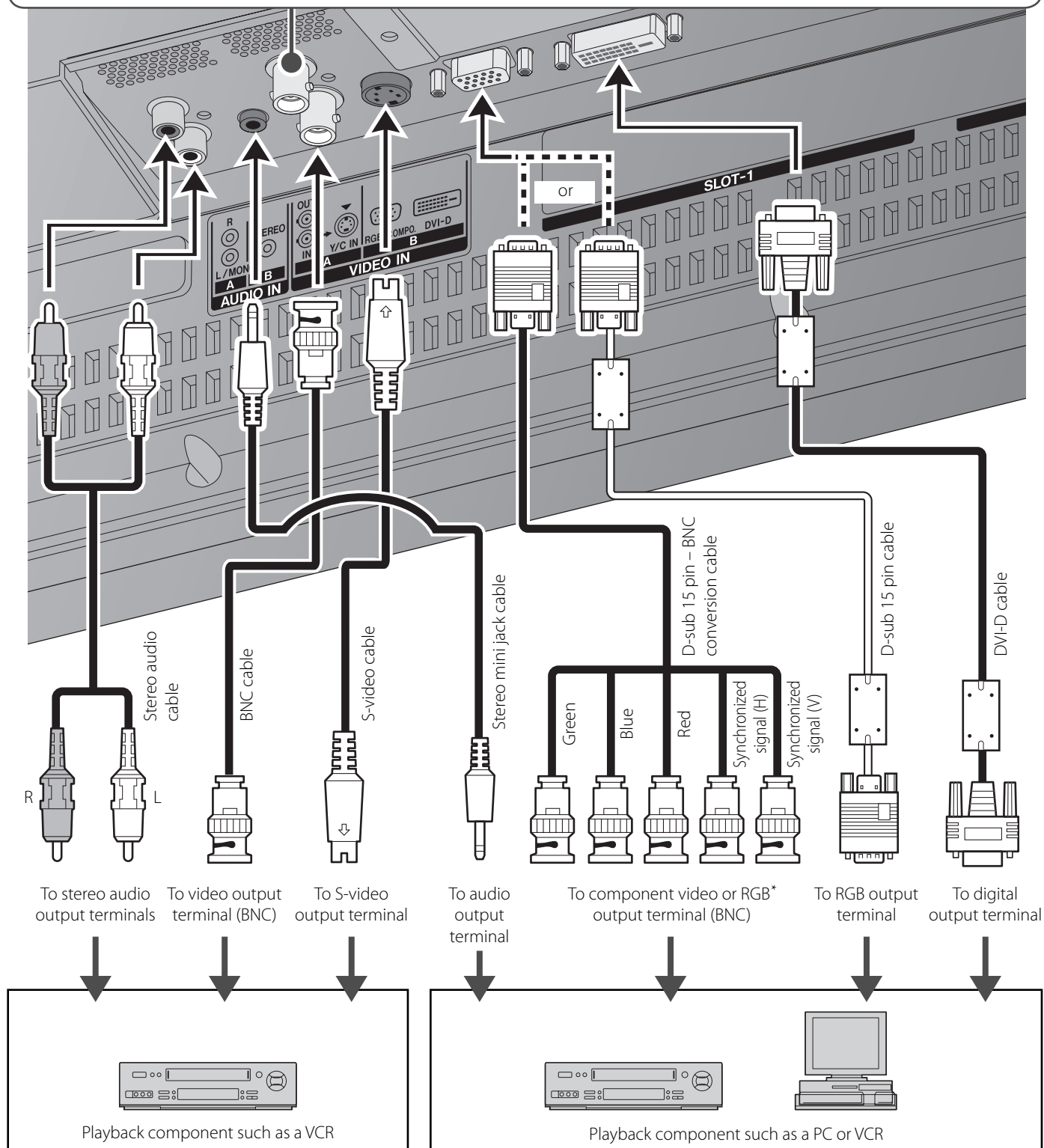
- Before making any connections, turn off all the equipment.
- DO NOT connect the power cord until all connections are completed.
- Use a cord whose plugs correctly match the terminals on this monitor and the equipment.
- Plugs should be firmly inserted; poor connections could cause noise.
- When unplugging a cord, be sure to grasp its plug and pull it out.
- Refer also to the user manual of each piece of equipment.



Connect the VIDEO IN A OUT terminal to the video input terminal of another monitor, etc.

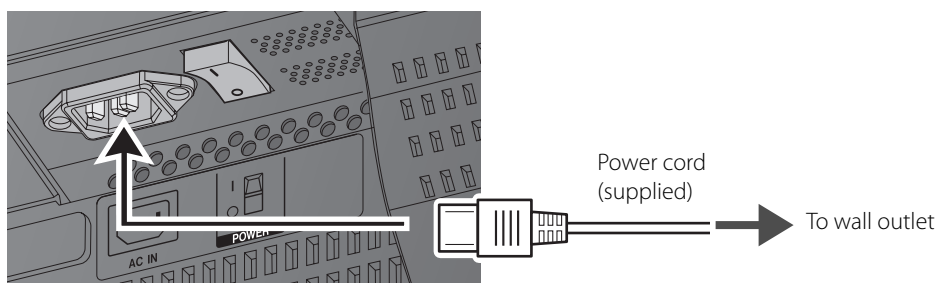
CAUTION

- Since the IN terminal and OUT terminal are loop-through terminals, the devices connected to the OUT terminal should be correctly terminated. Otherwise, pictures become abnormally bright or the display screen gets affected abnormally.



* For component video connection, connect only to the green, blue, and red terminals.

When all the connections are completed

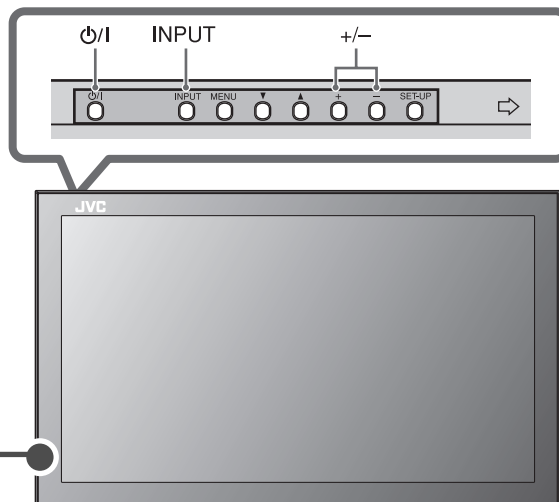
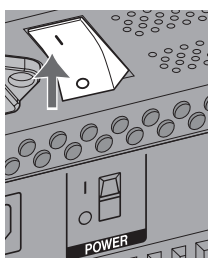


Daily Operations

Turning on the main power

I : Main power on
O : Main power off

On the rear panel



Turning on the monitor

From the remote control:



To turn off the monitor, press POWER OFF.

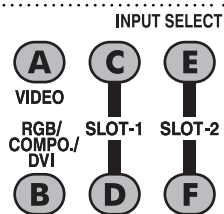
On the main unit:

Each time you press the button, the power turns on and off.



Selecting an input

From the remote control:



On the main unit:

Each time you press the button, the input changes.



NOTE

- When "QUICK SWITCH" is set to "INPUT A&B," you can change Inputs A and B quickly (see "INPUT CONFIGURATION" on page 23).

Adjusting the volume

From the remote control:



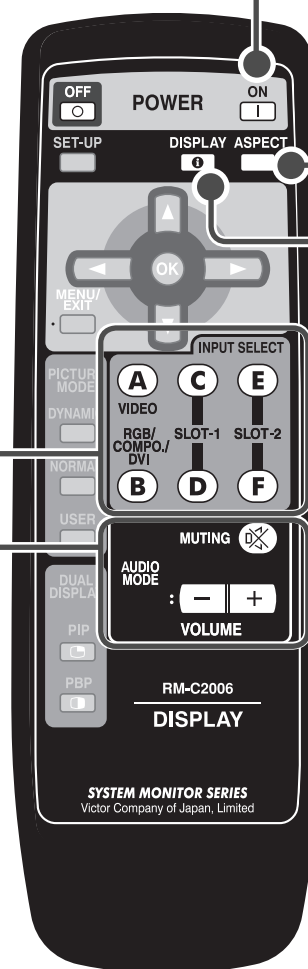
On the main unit:



To turn off the volume immediately:

Pressing the button again resumes the previous volume level.

- When using the buttons on the main unit, set "MUTING" to "ON" on the main menu (see "AUDIO SETTING" on page 23).



- When the Control Lock is set to "ON" (see page 29), you cannot use the buttons on the main unit.
- When the Security Lock is in set to "ON" (see page 32), you need to enter the password when turning on the monitor.

ASPECT

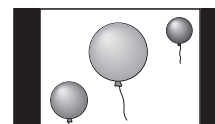


Changing the aspect ratio

Each time you press the button, the aspect ratio changes as follows:

REGULAR

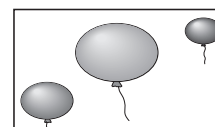
Displays at conventional 4:3 aspect ratio.



FULL

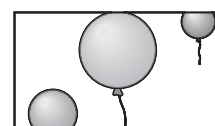
Enlarges the picture of 4:3 aspect ratio horizontally.

- For the picture of 16:9 aspect ratio, the aspect ratio is not changed.



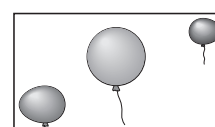
ZOOM

Enlarges the picture of 4:3 aspect ratio vertically and horizontally at the same ratio.



PANORAMIC

Enlarges the picture of 4:3 aspect ratio horizontally to the extent that the picture does not look abnormal.



<PC input ONLY>

REAL DOT

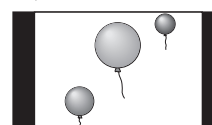
Displays center portion of the original picture input from the personal computer without changing the number of pixels.

This item is available only when one of the following signals is input:

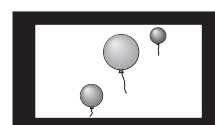
- WXGA (1280), WXGA (1360), 1280 * 720, SXGA60^{*1}, SXGA+60^{*1}, SXGA+60^{*1}, UXGA60^{*1}

^{*1} Analog RGB only

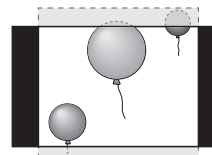
Ex.



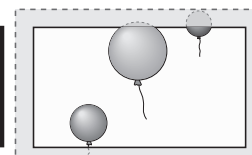
WXGA (1280)/
WXGA (1360)



1280 * 720



SXGA60



SXGA+60/SXGA+60*/
UXGA60

NOTE

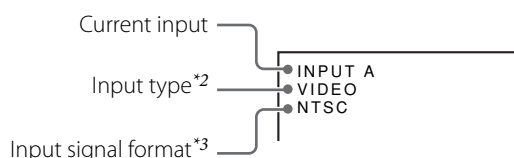
- For some signals, the aspect ratio cannot be changed or some modes cannot be selected.
- While using multiple monitors (see page 25), the aspect ratio is fixed to "FULL."
- When using the buttons on the main unit for changing the aspect ratio, use the main menu (see "SIZE SETTING" on page 21).

DISPLAY



Displaying the current status

The information of the current input is displayed on the screen.



^{*2} When Input C, D, E, or F is selected with an optional input card inserted, the type of the card appears. When no card is inserted, "NO CARD" appears.

^{*3} When no signal is being input, "NO SYNC" appears. When a signal this monitor does not support is being input, "Out of range" appears.

NOTE

- When "STATUS DISPLAY" on the main menu is set to "ON" (see page 25), the status is also displayed in the following cases:
 - When you turn on the monitor,
 - When you change inputs, or
 - When you change signal types.

Daily Operations (cont.)

Selecting the picture mode

- DYNAMIC:** Suitable for displaying documents for presentation.
- NORMAL:** Displays the original picture.
- USER:** You can adjust picture quality as you like (see "PICTURE SETTING" on page 21).

NOTE

- You can adjust the picture quality, such as brightness, for each picture mode. The setting you have made is stored (see "PICTURE SETTING" on page 21).

PICTURE MODE

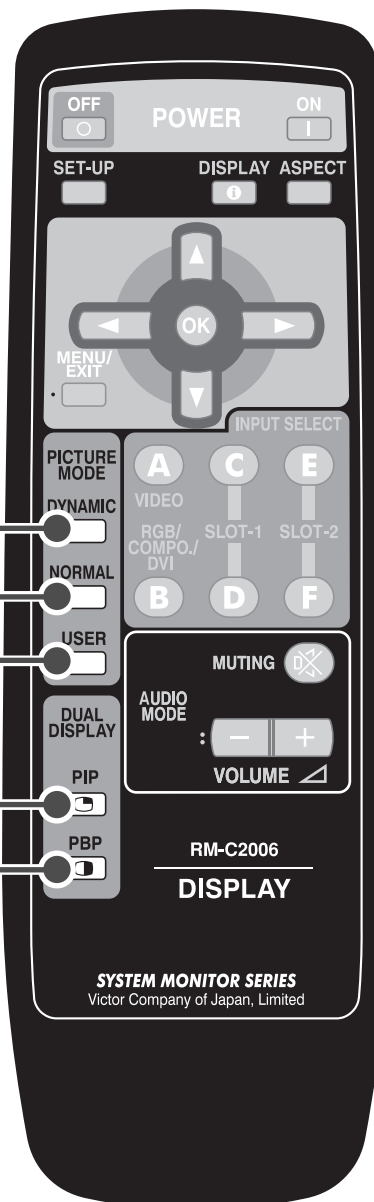
DYNAMIC



NORMAL



USER

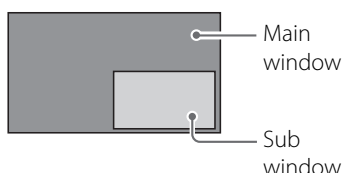


Viewing Inputs A and B (analog RGB input) at the same time—Dual Display

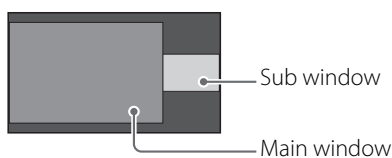
You can view Inputs A and B (analog RGB input) at the same time.

- This monitor supports 2 dual display modes.

PIP mode



PBP mode



DUAL DISPLAY

PIP



PBP



- Each time you press the button, the corresponding dual display mode turns on or off.
- When the dual display mode is activated, the current input is displayed on the main window, and the other is displayed on the sub window.

NOTE

- The dual display mode is available only when analog RGB signals are being input to Input B. For details, see page 25.
- You cannot change the input when the dual display mode is in use. To change the inputs for the main and sub windows, deactivate the dual display mode, change the input, and then activate the dual display mode.
- Use the main menu to adjust position and/or size of the sub window (see "DUAL DISPLAY" on page 25).

NOTE

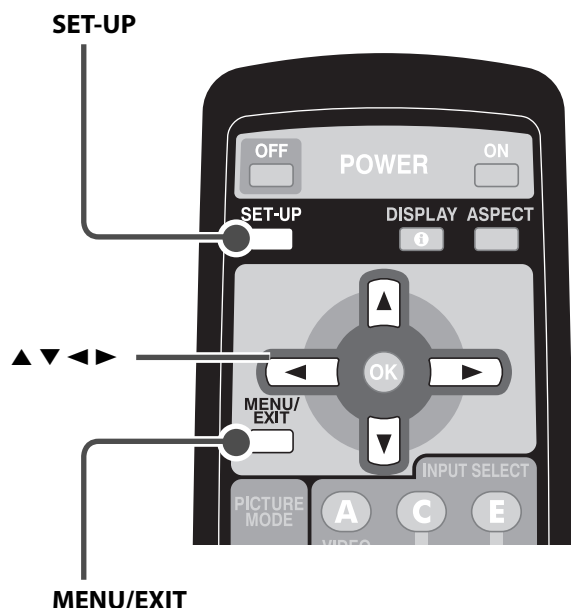
- When using the buttons on the main unit for operations described on this page, use the main menu (see page 21 or 25).

Menu Operations

On the main menu and set-up menu, you can make various adjustments, such as picture quality, or initial settings of the monitor.

- For the configuration of the main menu and a detailed description of each item, see pages 20 to 25.
- For the configuration of the set-up menu and a detailed description of each item, see pages 26 to 32.

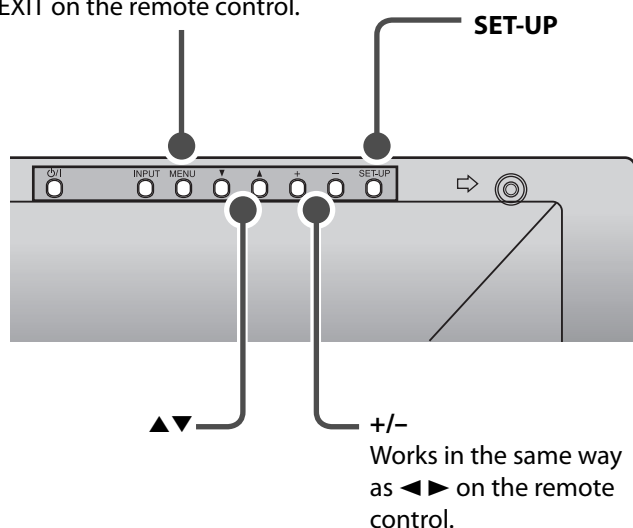
From the remote control



On the main unit

MENU

Works in the same way as MENU/EXIT on the remote control.



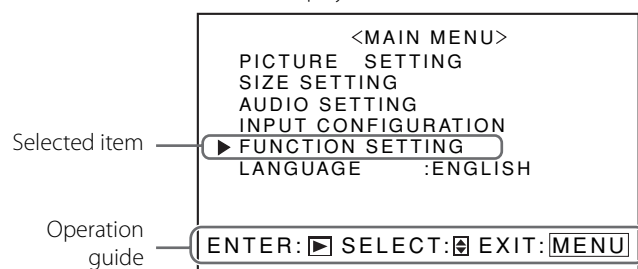
1 Display the menu.

MENU/EXIT To display the main menu

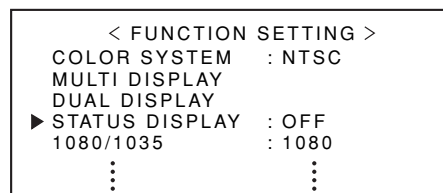
SET-UP To display the set-up menu

2 Press ▲ ▼ to select an item, then press ►.

Ex.: When the main menu is displayed



3 Press ▲ ▼ to select an item, then press ◀ ▶ to make adjustments.



4 Press MENU/EXIT to return to the previous menu.

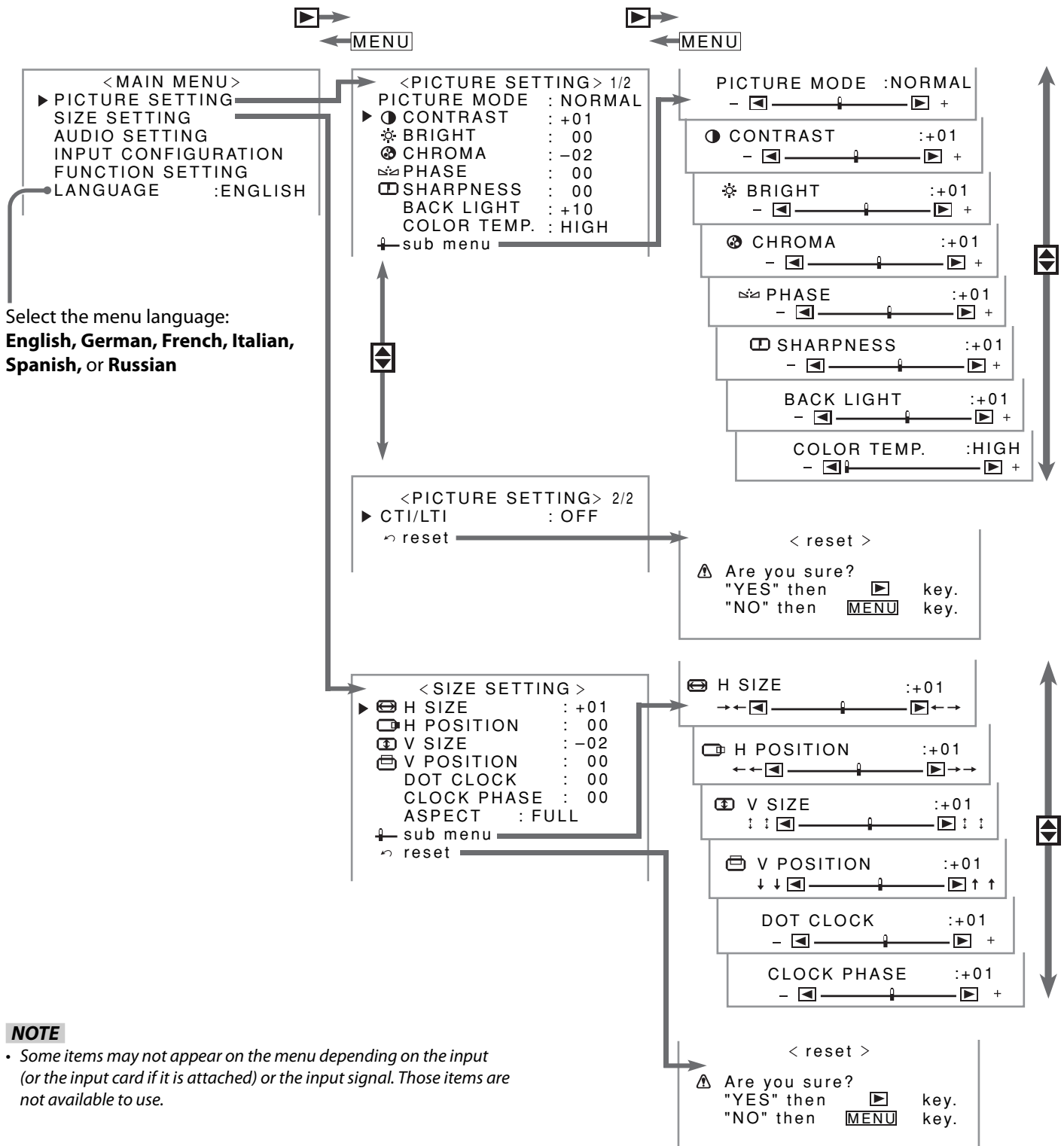
- Pressing the button again exits the menu operation.

NOTE

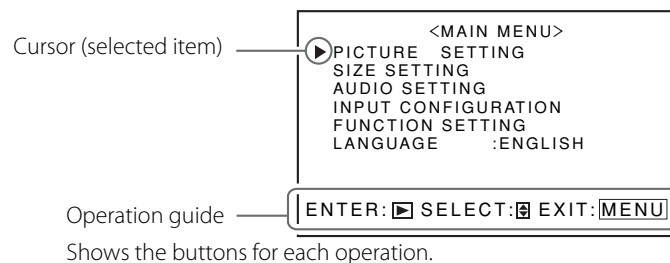
- For some items, adjustments will be made by pressing ◀ ▶ in step 2.

Menu Configuration—MAIN MENU

On the main menu, you can make various adjustments and settings for picture, screen, and audio.



Configuration of the main menu screen



PICTURE SETTING

Item	To do	Setting value
PICTURE MODE	Selects a picture mode you want (see "Selecting the picture mode" on page 18).	DYNAMIC, NORMAL, USER
CONTRAST	Adjusts contrast of the picture.	-20 ↔ 00 ↔ +20
BRIGHT	Adjusts the brightness of the picture.	-20 ↔ 00 ↔ +20
CHROMA	Adjusts the color density of the picture (except for RGB and BW (50 Hz/60 Hz) signals).	-20 ↔ 00 ↔ +20
PHASE	Adjusts the color phase.	-20 ↔ 00 ↔ +20
SHARPNESS	Adjusts the outlines of the picture.	-20 ↔ 00 ↔ +20
BACK LIGHT	Adjusts the brightness of the display.	-20 ↔ 00 ↔ +20
COLOR TEMP.	Selects the color temperature.	HIGH, MID, LOW, OTHER
sub menu	Displays the adjustment bar which enables you to adjust the items in "PICTURE SETTING" (except for "CTI/LTI") while viewing the actual picture.	
CTI/LTI	Adjusts the clearness of the picture.	OFF, 1, 2
reset	Restores the default setting for all the items in "PICTURE SETTING."	

NOTE

- You can adjust the items in "PICTURE SETTING" for each picture mode. Select a picture mode you want to adjust first. (The setting values are stored.)
- "PHASE" does not appear on the menu for the following input signals:
 - RGB, PAL, SECAM, BW (50 Hz/60 Hz)
- You can make the detailed settings of the color temperature using the set-up menu (see "COLOR TEMP." on page 27).

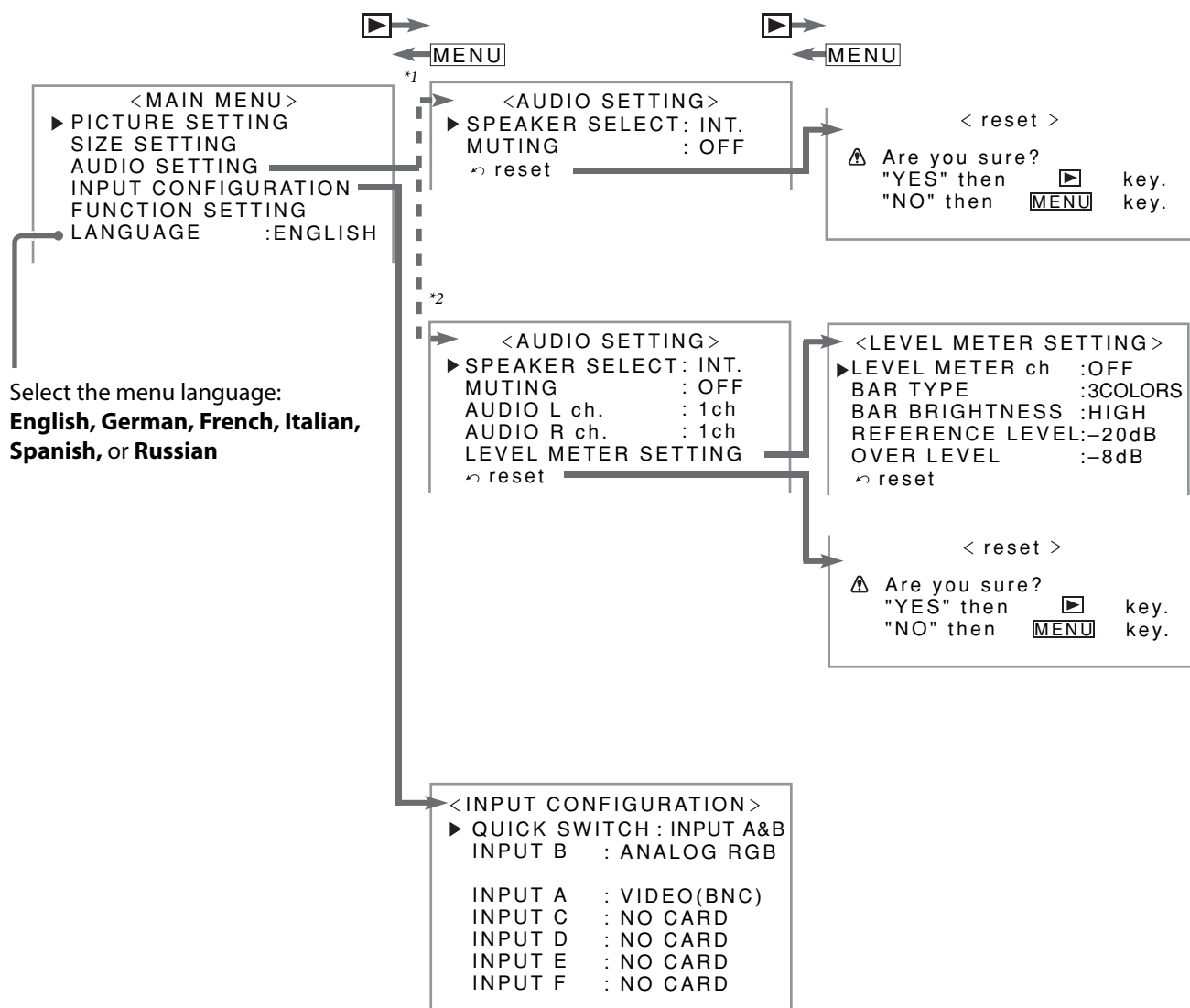
SIZE SETTING

Item	To do	Setting value
H SIZE	Adjusts the horizontal screen size.	Varies depending on other settings.
H POSITION	Adjusts the horizontal screen position.	
V SIZE	Adjusts the vertical screen size.	
V POSITION	Adjusts the vertical screen position.	
DOT CLOCK	Adjusts to eliminate stripes or flickering when analog RGB signals are being input from a computer. Use with "CLOCK PHASE." Normally, no adjustment is needed.	Varies depending on other settings.
CLOCK PHASE	Adjusts to eliminate stripes or flickering when analog RGB signals are being input from a computer. Use with "DOT CLOCK." Normally, no adjustment is needed.	-32 ↔ 00 ↔ +32
ASPECT	Selects the aspect ratio (see "Changing the aspect ratio" on page 17).	REGULAR, FULL, ZOOM, PANORAMIC, REAL DOT
sub menu	Displays the adjustment bar which enables you to adjust H SIZE/POSITION, V SIZE/POSITION, DOT CLOCK, and CLOCK PHASE while viewing the actual picture.	
reset	Restores the default setting for all the items in "SIZE SETTING."	

NOTE

- During the size and position adjustments, the picture may be distorted but this is not a malfunction.
- Size and position adjustments are related so that if one is set to a higher setting value, the other's setting value will be reduced.
- For the computer signals input to the DVI-D terminal, the following items are automatically adjusted (and not displayed in the menu).
H SIZE, H POSITION, V SIZE, V POSITION, DOT CLOCK, CLOCK PHASE

Menu Configuration—MAIN MENU (cont.)



**1 When no HD/SD SDI or SDI input card (option) is inserted.*

**2 When an HD/SD SDI or SDI input card (option) is inserted.*

AUDIO SETTING

Item	To do	Setting value
SPEAKER SELECT	Selects the speakers you want to use.	INT. (Internal speakers), EXT. (External speakers)
MUTING	Turns the volume on or off.	ON, OFF
AUDIO L ch.	Selects the left audio channel when the EMBEDDED AUDIO signal is being input.	1ch ↔ 8ch
AUDIO R ch.	Selects the right audio channel when the EMBEDDED AUDIO signal is being input.	1ch ↔ 8ch
LEVEL METER SETTING	Adjusts the audio level meter display for the EMBEDDED AUDIO signal (see "Example of the level meter display" below).	
LEVEL METER ch	Selects the audio channels used in the audio level meter display. (The numbers indicate the audio channel. The input level for the channels indicated on the left side of ":" is displayed on the left side of the screen, and the input level for the channels indicated on the right side of ":" is displayed on the right side of the screen.)	OFF, 1:2, 12:34, 31:24, 123:456, 1–8
BAR TYPE	Selects the color of the audio level meter display.	3COLORS (3 colors to indicate variations in input levels), W.100 (white), W.50 (half transparent)
BAR BRIGHTNESS	Selects the brightness of the audio level meter display.	HIGH, LOW
REFERENCE LEVEL	Sets the standard input level.	–20dB, –18dB
OVER LEVEL	Sets the input level's lower limit indicated in red for the "3COLORS" display.	–10dB, –8dB, –6dB, –4dB, –2dB
reset	Restores the default setting for "LEVEL METER SETTING."	
reset	Restores the default setting for all the items in "AUDIO SETTING."	

NOTE

- The items for EMBEDDED AUDIO setting ("AUDIO L/R ch." and "LEVEL METER SETTING") are displayed on the menu only when the HD/SD SDI or SDI input card (option) is installed.

INPUT CONFIGURATION

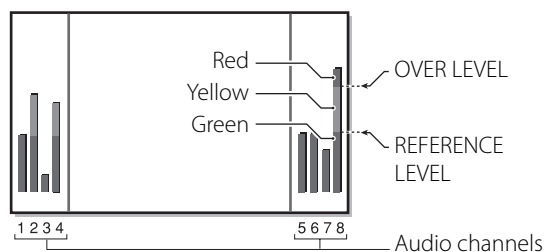
Item	To do	Setting value
QUICK SWITCH	Sets if you want to change Inputs A and B quickly.	OFF, INPUT A&B
INPUT B	Selects the terminal and signal type you want to use for Input B.	ANALOG RGB, DVI, COMPONENT
INPUT A	Displays the terminal being used for Input A ("VIDEO (BNC)" or "VIDEO (Y/C)").	—
INPUT C/D/E/F	Shows the status of the input card slots. When no input card is inserted, "NO CARD" appears.	—

Example of the level meter display—Level indication and audio channels

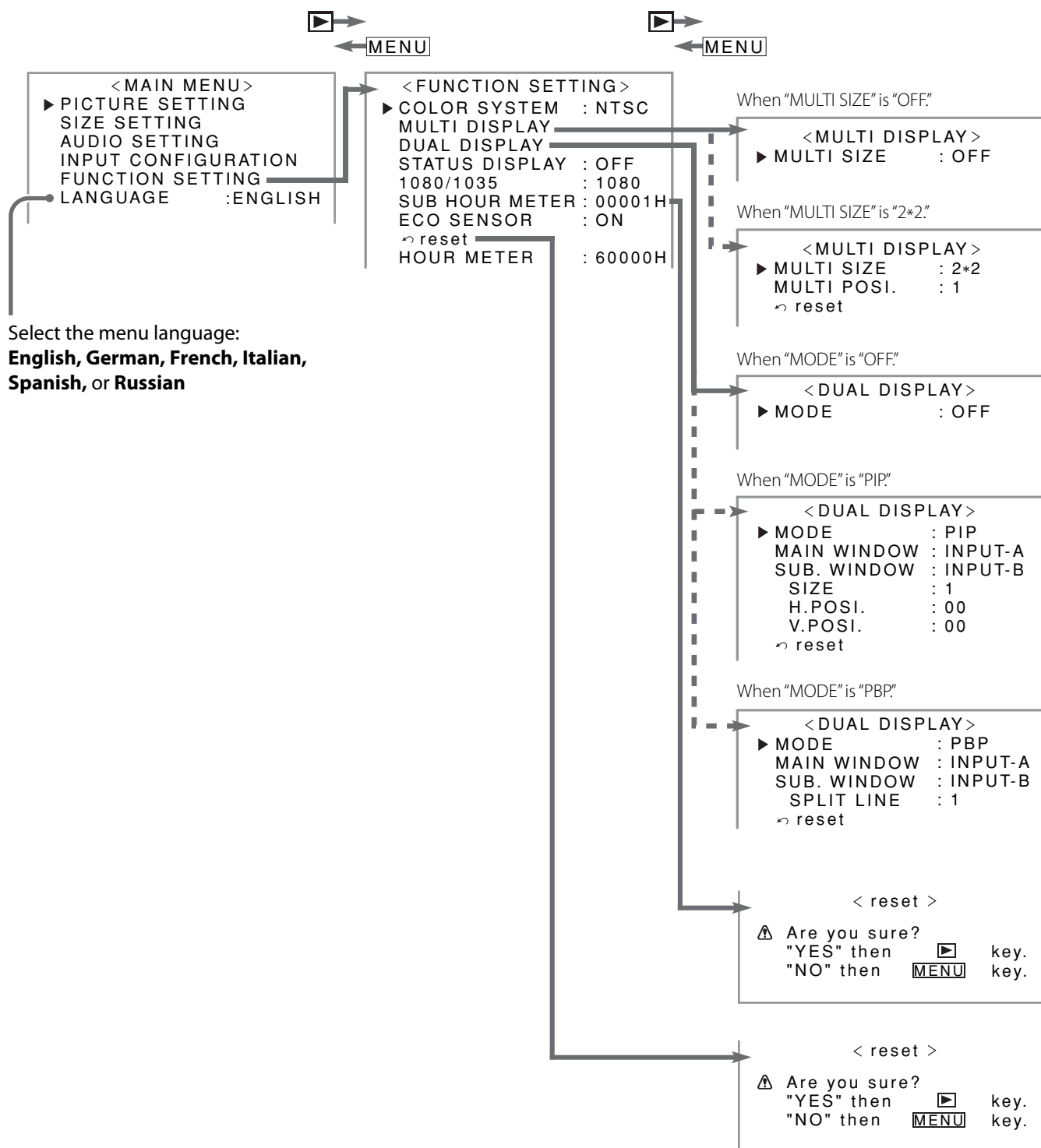
Ex.: When "LEVEL METER ch" is set to "1–8" and "BAR TYPE" is set to "3COLORS."

NOTE

- When "BAR TYPE" is set to "W.100" or "W.50," the standard input level set in the "REFERENCE LEVEL" is displayed with the line indication. Input level set in "OVER LEVEL" is not displayed.
- The audio channel bar with no signal input is displayed in white for the "3COLORS" setting, and in gray for other settings.



Menu Configuration—MAIN MENU (cont.)



FUNCTION SETTING

Item	To do	Setting value
COLOR SYSTEM	Selects the color system. When you cannot view pictures correctly with "AUTO," select an appropriate option according to the current input.	AUTO, NTSC, PAL, SECAM, N4.43, PAL M, PAL N, PAL60
MULTI DISPLAY	Sets the multiple monitor usage (see "Example of the multiple monitor setting" below).	
MULTI SIZE	Activates/deactivates the multiple monitor usage (2 monitors horizontally * 2 monitors vertically).	OFF, 2*2
MULTI POSI.	Sets the position of this monitor when "MULTI SIZE" is set to "2*2."	1 ↔ 4
reset	Restores the default setting for "MULTI DISPLAY."	
DUAL DISPLAY	Sets the dual display mode (see "Viewing Inputs A and B (analog RGB input) at the same time—Dual Display" on page 18).	
MODE	Selects the dual display mode.	OFF, PIP, PBP
MAIN WINDOW	Displays the input for the main window ("INPUT-A" or "INPUT-B").	—
SUB. WINDOW	Displays the input for the sub window ("INPUT-A" or "INPUT-B").	—
SIZE	Adjusts the size of the sub window (only for PIP mode).	1 ↔ 4
H.POSI./V.POSI.	Adjusts the horizontal and vertical position of the sub window (only for PIP mode).	-20 ↔ 00 ↔ +20
SPLIT LINE	Adjusts the position of the border between the main window and sub window (only for PBP mode).	1 ↔ 5
reset	Restores the default setting for "DUAL DISPLAY."	
STATUS DISPLAY	Sets if you want the information of the current input to be displayed on the screen (see "Displaying the current status" on page 17).	OFF, ON
1080/1035	Selects a High-Definition signal type (1080/60i or 1035/60i) for the component signal to view the picture correctly.	1080, 1035
SUB HOUR METER	Displays the hours of current use (unit: hour). You can reset only this item.	
ECO SENSOR	Sets the eco sensor which enables you to adjust the brightness of the screen automatically according to the brightness of the room.	ON, OFF
reset	Restores the default setting for the items in "FUNCTION SETTING" except for "MULTI DISPLAY," "DUAL DISPLAY," and "HOUR METER."	
HOUR METER	Displays the total hours of use (unit: hour). This item is used for maintenance of the monitor. This item cannot be reset.	

NOTE

- The dual display mode is available only when "MULTI SIZE" is set to "OFF."
- "MULTI DISPLAY" is not displayed on the menu when the dual display mode is in use.

Available signals for the dual display mode

The dual display mode can be activated only when one of the following signals is being input to Input A and B.

- Input A: NTSC, PAL, SECAM, PAL M, PAL N, PAL60, NTSC4.43, BW (50 Hz/60 Hz)
- Input B (only analog RGB): VGA60, WVGA60, XGA60, WXGA60

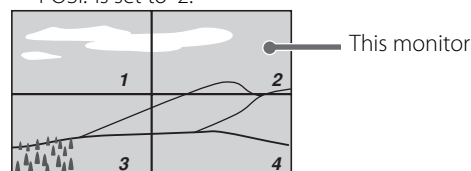
Available signals for using multiple monitors

"MULTI DISPLAY" is available only when one of the following signals is being input:

- Composite signals: NTSC, PAL, SECAM, PAL M, PAL N, PAL60, NTSC4.43, BW (50 Hz/60 Hz)
- Analog component signals: 480/60i, 576/50i, 1080/60i, 1080/50i
- Analog RGB signals: VGA60, XGA60

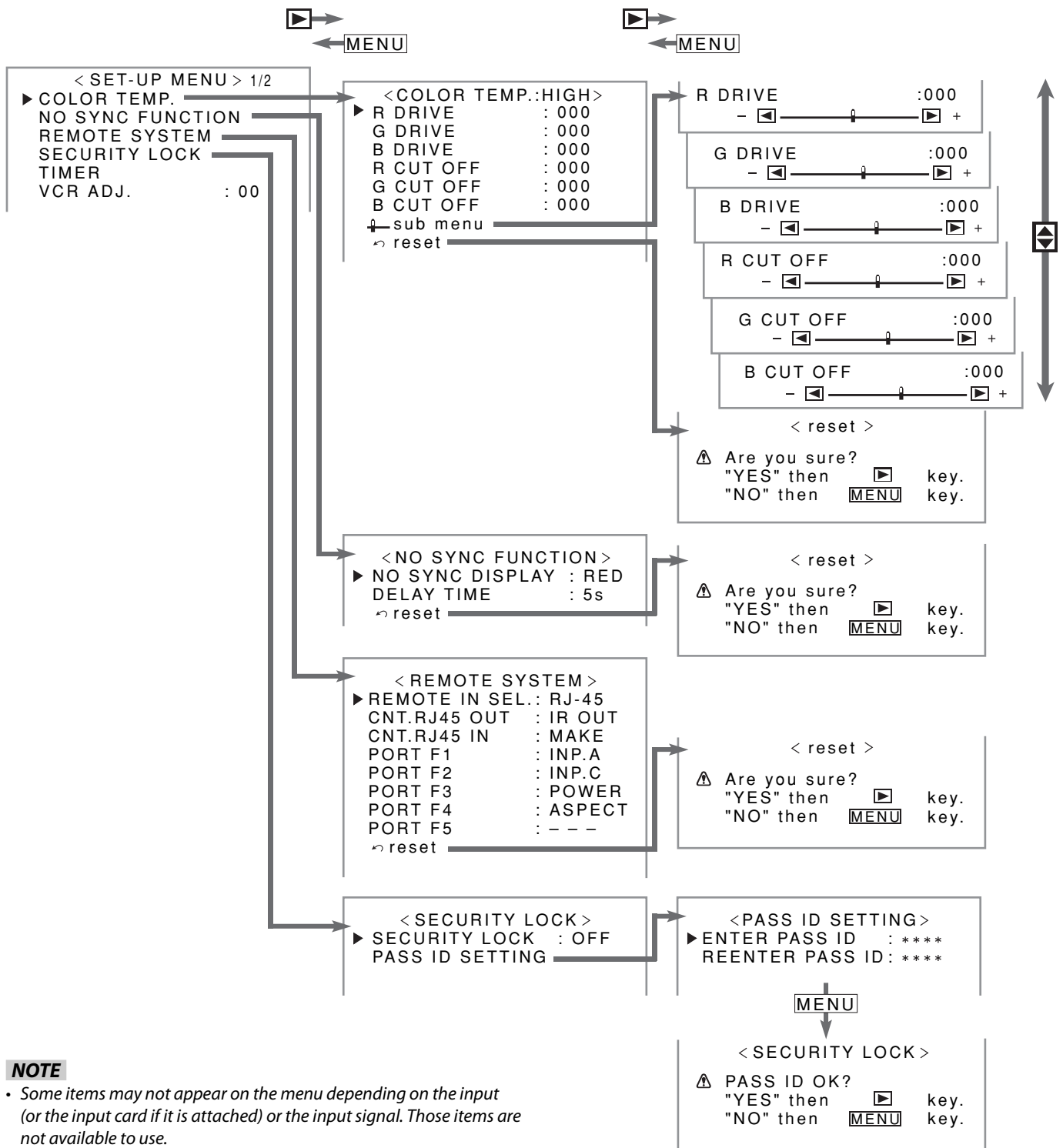
Example of the multiple monitor setting

Ex.: When "MULTI SIZE" is set to "2*2" and "MULTI POSI." is set to "2."

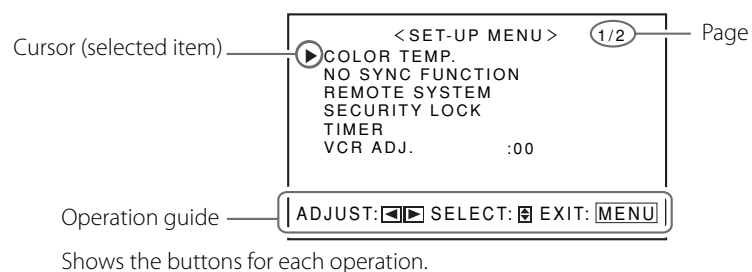


Menu Configuration—SET-UP MENU

On the set-up menu, you can change various settings such as color temperature and timer.



Configuration of the set-up menu screen



COLOR TEMP.

Item	To do	Setting value
R DRIVE, G DRIVE, B DRIVE	Adjusts the drive level of each color (red, green, and blue).	MIN $\longleftrightarrow$ 000 $\longleftrightarrow$ MAX (in 512 grades)
R CUT OFF, G CUT OFF, B CUT OFF	Adjusts the cut-off point of each color (red, green, and blue).	MIN $\longleftrightarrow$ 000 $\longleftrightarrow$ MAX (in 512 grades)
sub menu	Displays the adjustment bar which enables you to adjust the drive level and cut-off point while viewing the actual picture.	
reset	Restores the default setting for all the items in "COLOR TEMP."	

NOTE

- Adjust the color temperature after selecting color temperature (HIGH, MID., LOW, or OTHER) on the main menu (see "PICTURE SETTING" on page 21).

NO SYNC FUNCTION

Item	To do	Setting value
NO SYNC DISPLAY	Selects the screen color (or sleep mode) when no signal is being input.	OFF, SLEEP (sleep mode), RED, GREEN, BLUE, GRAY
DELAY TIME	Sets the time to change the screen color (or sleep mode) set in "NO SYNC DISPLAY" above after signals stops being input.	5s, 1min., 30min.
reset	Restores the default setting for all the items in "NO SYNC FUNCTION."	

REMOTE SYSTEM

Item	To do	Setting value
REMOTE IN SEL.	Selects the input terminal used for external control.	D-sub9, RJ-45
CNT. RJ45 OUT	Selects the external control method for RS-485 OUT terminal.	RS485, IR OUT
CNT. RJ45 IN	Selects the external control method for RS-485 IN terminal.	RS485, MAKE, TRIG., SET
PORT F1 – PORT F5	Assigns the control function to the RS-485 IN terminal's pins (1 to 5) when selecting "SET" in "CNT. RJ45 IN" above.	INP. A – INP. F, POWER, ASPECT, MUTING, PIP, PBP, – – – (no function)
reset	Restores the default setting for all the items in "REMOTE SYSTEM."	

NOTE

- For details about external control, see pages 33 to 37.

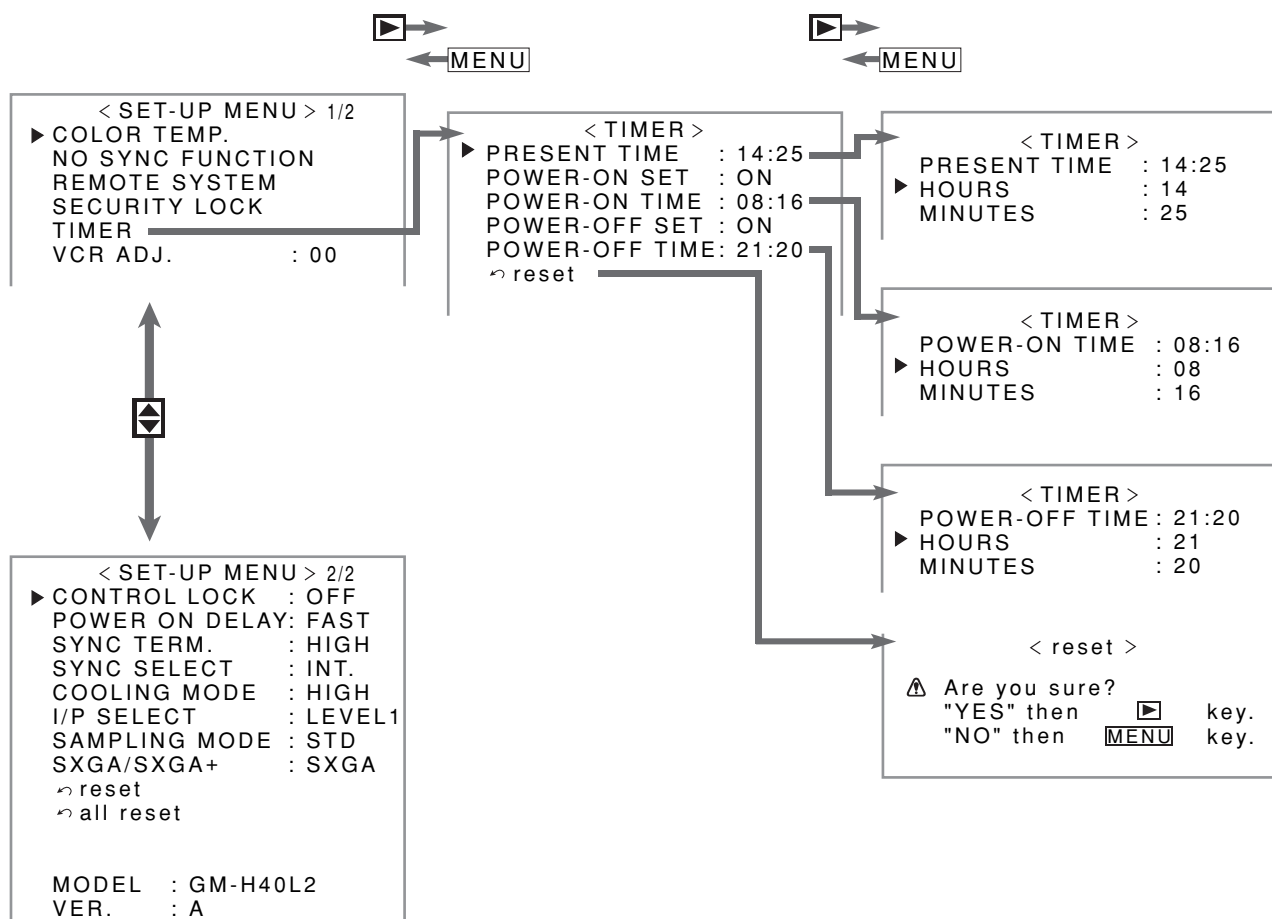
SECURITY LOCK

Item	To do	Setting value
SECURITY LOCK	Activates/deactivates the Security Lock. When this function is activated, the monitor cannot be turned on without entering the password set in "PASS ID SETTING" below.	ON, OFF
PASS ID SETTING	Sets the password for the Security Lock.	4 characters

NOTE

- For details about the Security Lock, see page 32.

Menu Configuration—SET-UP MENU (cont.)



TIMER

Item	To do	Setting value
PRESENT TIME	Sets the clock.	
HOURS	Sets the hour.	00 ↔ 23
MINUTES	Sets the minute.	00 ↔ 59
POWER-ON SET	Activates/deactivates the power-on timer.	ON, OFF
POWER-ON TIME	Sets the time to turn on the monitor.	
HOURS	Sets the hour.	00 ↔ 23
MINUTES	Sets the minute.	00 ↔ 59
POWER-OFF SET	Activates/deactivates the power-off timer.	ON, OFF
POWER-OFF TIME	Sets the time to turn off the monitor.	
HOURS	Sets the hour.	00 ↔ 23
MINUTES	Sets the minute.	00 ↔ 59
reset	Restores the default setting for all the items in "TIMER."	

VCR ADJ.

Adjusts when the picture played back on a VCR is distorted. (Depending on the condition of the connected VCR or the playback tape, the picture quality may not be improved.)

Setting value: -05 ↔ 00 ↔ +05

CONTROL LOCK

Activates/deactivates the Control Lock. When this function is activated, you cannot operate the monitor with the buttons on the main unit.

Setting value: ON, OFF

NOTE

- You can use the remote control and external control while the control lock is set. To release the lock, use the remote control.

POWER ON DELAY

Sets the time when the power supply to the monitor's circuits (excluding the micro computers) starts after the power button is pressed.

Setting value: OFF, FAST, SLOW

NOTE

- If you are going to turn several monitors on at the same time, it is recommended to apply "SLOW" to some of the monitors to control rush current.

SYNC TERM.

Sets the resistance of Horizontal sync/Composite sync signal and Vertical sync signal when the component/RGB input card (option) is inserted. Normally, select "HIGH" (1 kΩ). If you see pictures flickering or blurring on the screen because of a long connecting cord, set this to "LOW" (75 Ω).

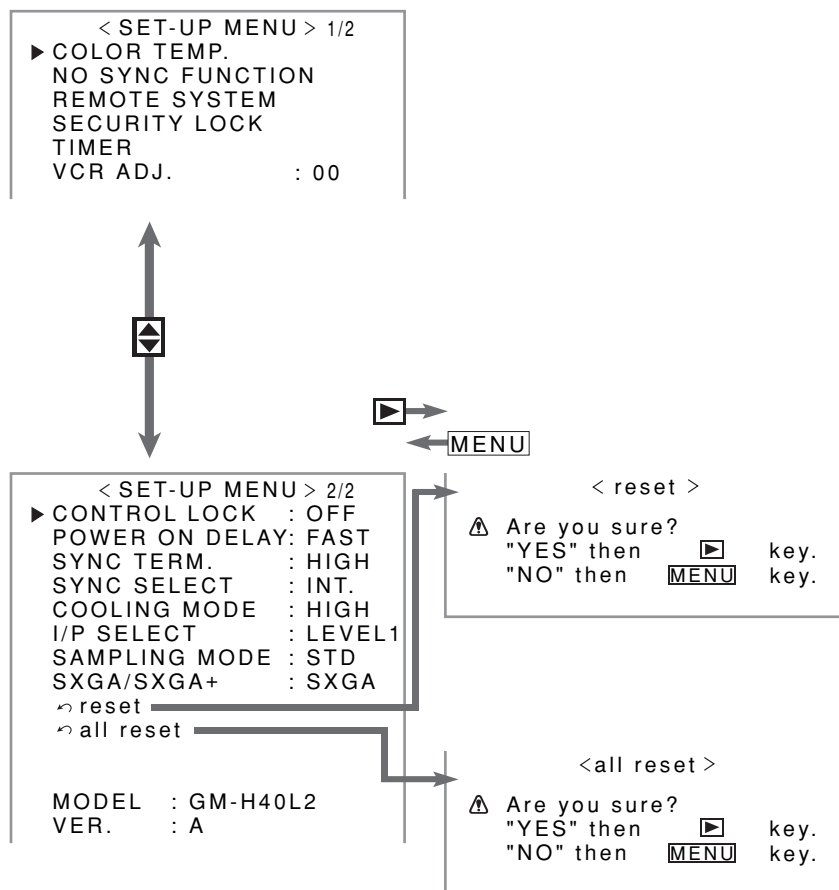
Setting value: HIGH, LOW

SYNC SELECT

When a video input card (option) is inserted, set the sync signal to use.

Setting value: INT. (sync signal included in the video signal), EXT. (external sync signal)

Menu Configuration—SET-UP MENU (cont.)



COOLING MODE

Sets the speed of the internal cooling fan. When installing the monitor vertically, select "HIGH."

Setting value: HIGH, LOW

I/P SELECT

Select a level with which you can view the least noise on the screen.

Setting value: LEVEL1, LEVEL2, LEVEL3

SAMPLING MODE

Select "STD" when VGA60 or XGA60 signal is input through the RGB/COMPO. terminal, and "WIDE" when WVGA60 or WXGA60 signal is input through the RGB/COMPO. terminal. (This item does not affect other signals and is not displayed for other signals.)

Setting value: STD, WIDE

SXGA/SXGA+

Select "SXGA" when SXGA60 signal is input through the RGB/COMPO. terminal, and "SXGA+" when SXGA+60 or SXGA+60* signal is input through the RGB/COMPO. terminal. (This item does not affect other signals and is not displayed for other signals.)

Setting value: SXGA, SXGA+

reset

Restores the default setting for all the items in the set-up menu.

all reset

Restores the default setting for all the items in the main menu and set-up menu (except for "LANGUAGE," "HOUR METER," "SECURITY LOCK," and "PASS ID SETTING").

The power is turned off, then turned on again automatically.

MODEL, VER.

Displays the model name and version of the monitor. This item is used for maintenance of the monitor.

Menu Configuration—SET-UP MENU (cont.)

Setting the Security Lock

When the Security Lock is set to "ON," you need to enter the password when turning on the monitor. Without entering the correct password, you cannot perform any operations except for entering the password and turning off the monitor.

■ To change the password

When shipped from the factory, the password is set to "0000." Change it to the 4 characters of your choice.

Available characters: 0 – 9, A – Z, a – z

Remote control ONLY

1 Select "PASS ID SETTING" on the SECURITY LOCK sub menu of the set-up menu.

2 Press ►.

The password entering screen appears.

3 Enter the current password.

< SECURITY LOCK >

PLEASE ENTER

PASS ID : 0 ***

See "How to enter a password" below.
The password setting screen appears.

4 Enter a new password.

< PASS ID SETTING >

ENTER PASS ID : 0 * * *

REENTER PASS ID : * * * *

See "How to enter a password" below.

5 Press OK.

The cursor moves to the second line.

6 Enter the new password again for confirmation, then press OK.

- If the password is different from the one entered in step 4, "PASS ID NG!" appears and the SECURITY LOCK sub menu is displayed. In this case, repeat from step 1.

■ To activate the Security Lock

1 Select "SECURITY LOCK (: OFF)" on the SECURITY LOCK sub menu of the set-up menu.

2 Press ►.

The password entering screen appears.

3 Enter the password.

< SECURITY LOCK >

PLEASE ENTER

PASS ID : 0 ***

See "How to enter a password" below.

The Security Lock is set to "ON."

- After activating the Security Lock function, the password is required to turn on the monitor. Enter the password (see "How to enter a password" below).*

* If the power-on timer (see "POWER-ON SET" on page 29) is activated, the monitor turns on at the specified power-on time without the password.

■ To deactivate the Security Lock

1 Select "SECURITY LOCK (: ON)" on the SECURITY LOCK sub menu of the set-up menu.

2 Press ►.

The password entering screen appears.

3 Enter the password.

< SECURITY LOCK >

PLEASE ENTER

PASS ID : 0 ***

See "How to enter a password" below.

The Security Lock is set to "OFF."

How to enter a password

To enter a password, follow the procedure below.

< SECURITY LOCK >

PLEASE ENTER

PASS ID : 0 ***

- When shipped from the factory, the password is set to "0000."

Remote control ONLY

1 Press ▲▼ to select a character.

- The digit currently selected flashes, and "*" is displayed for other digits.

2 Press ◀▶ to edit the next digit.

3 Press OK after entering all digits.

- If the password is wrong, "PASS ID NG!" appears. Enter the correct password.

DO NOT forget the password!
If you forget the password, consult your dealer.

How to Use External Control

About the external control

This monitor has two external control terminals as follows:

- **RS-232C terminal:** Controls the monitor by external control equipment (a personal computer or a dedicated controller) (see "Using the serial communication" on pages 34 and 35).
- **RS-485 terminals:** The following external control systems are available.
 - (1) **Serial communication:** Controls the monitor by external control equipment (a personal computer or a dedicated controller) (see pages 34 and 35).
 - (2) **IR OUT system:** Controls other equipment by using the remote control supplied with this monitor.
 - (3) **MAKE (make contact system):** Controls the function by short-circuiting the corresponding pin terminal to the GND pin terminal, or disconnecting (opening) it (see pages 36 and 37).
 - (4) **TRIG. (trigger system):** Controls the function by inputting the pulse signal instantaneously to the corresponding pin terminal (see pages 36 and 37).

Set the following items in "REMOTE SYSTEM" according to the external control terminal and control system you use (see page 27).

Control system		"REMOTE IN SEL." setting	"CNT. RJ45 OUT" setting	"CNT. RJ45 IN" setting
Serial communication	RS-485	RJ-45 ^{*1}	RS485	RS485
	RS-232C	D-sub9 ^{*1}	RS485	RS485
IR OUT system		Any	IR OUT	Any
MAKE system		RJ-45	RS485	MAKE
TRIG. system		RJ-45	RS485	TRIG.

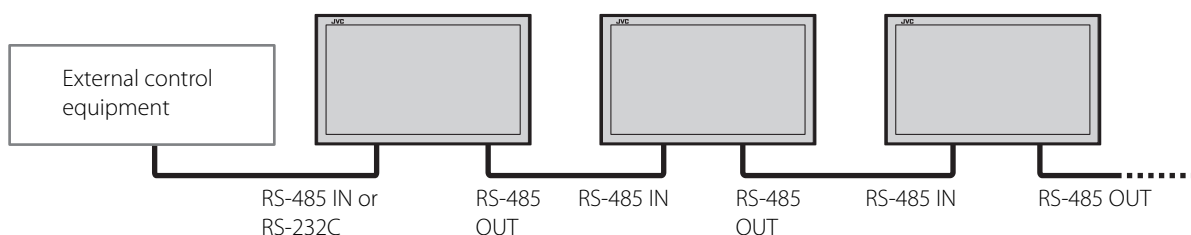
^{*1} For the monitor connected to the external control equipment, set "REMOTE IN SEL." according to the actual connection. Set other monitors to "RJ-45."

NOTE

- Control priority is as follows:
MAKE or TRIG. (trigger) system > RS-485 system > Buttons on the remote control or the main unit
- While the Control Lock is in use, you can use external control.

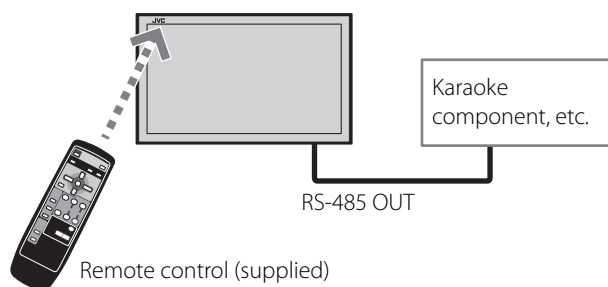
<Serial communication>

Several monitors can be controlled by connecting their RS-485 IN and OUT terminals. See also pages 34 and 35.



<IR OUT system>

Control signals from the remote control are sent to external equipment via the RS-485 OUT terminal.



<MAKE/TRIG. system>

You can control the monitor by external control equipment^{*2}. See also pages 36 and 37.

^{*2} External control equipment is not commercially available. Consult your dealer if you need a dedicated controller.

How to Use External Control (cont.)

Using the serial communication

You can control the monitor from external control equipment (a personal computer or a dedicated controller) via the RS-485 or RS-232C terminal.

<Communication specifications>

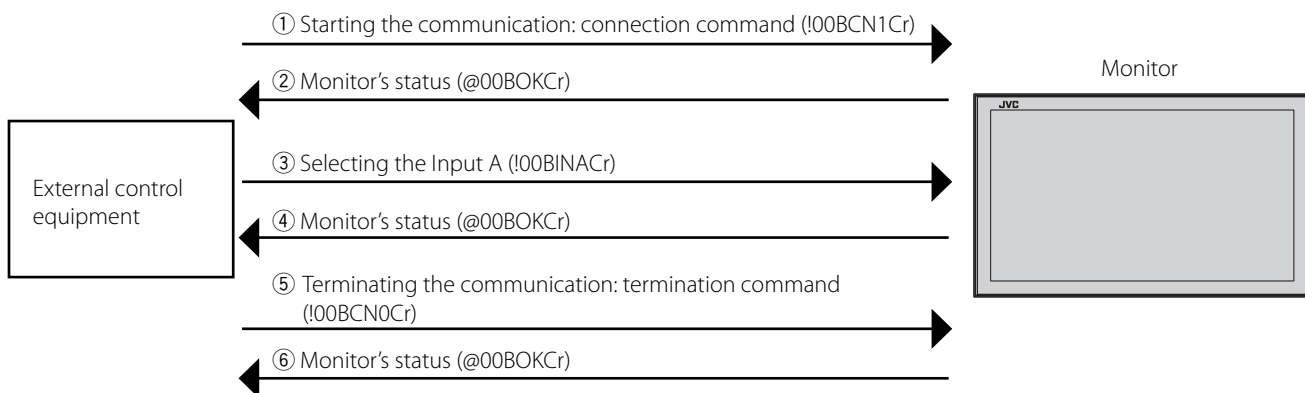
Input terminal	Cable	Terminal specification	Communication specifications
RS-485	A straight LAN cable	See page 35.	Baud Rate: 4800 bps Data Bits: 8 bits Parity: No parity Stop Bits: 1 bit Flow Control: No control Communication Code: ASCII Code
RS-232C	A straight cable with a RS-232C connector (male for the monitor, female for the external control equipment)		

<Command outline>

When the monitor is turned on, the external control is not ready.

- To start communication, send the connection command from the external control equipment.
- To terminate the communication, send the termination command from the external control equipment.

Example of communication procedures:



- Commands starting with "!" are operation commands from the external control equipment. For details, see "Command list" on the next page.
- Commands starting with "@" are status returns from the monitor.

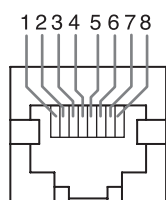
<Command list>

Type	No.	Commands	Functions	Data
Basic commands	1*	! * * B C N 1 Cr	Starts communication (connection)	No data
	2*	! * * B C N 0 Cr	Terminates communication (termination)	No data
	3	! * * B I D S E T Cr	Assigns the control ID	No data
	4	! * * B I D R E T Cr	Initializes the control ID	No data
	5	! * * B I D D S P x x Cr	Displays/hides the ID	00: Hide, 01: Display
	6	! * * B I D C H K x x Cr	Flashes/hides the selected ID No. of the monitor	00: Hide, 01: Display
	7	! * * B M E N U Cr	Displays the MAIN MENU/Quits the menu operation	No data
	8	! * * B U P Cr	Moves the cursor upward (▲)	No data
	9	! * * B D O W N Cr	Moves the cursor downward (▼)	No data
	10	! * * B A D J R Cr	Makes setting/adjustment (►/+)	No data
	11	! * * B A D J L Cr	Makes setting/adjustment (◄/-)	No data
	12	! * * B E N T E R Cr	Enters the password for the Security Lock	No data
	13	! * * B S E T U P Cr	Displays the SET-UP MENU	No data
	14*	! * * B P W 1 Cr	Turns on the monitor	No data
	15	! * * B P W 0 Cr	Turns off the monitor	No data
	16	! * * B I N A Cr	Selects Input A	No data
	17	! * * B I N B Cr	Selects Input B	No data
	18	! * * B I N C Cr	Selects Input C	No data
	19	! * * B I N D Cr	Selects Input D	No data
	20	! * * B I N E Cr	Selects Input E	No data
	21	! * * B I N F Cr	Selects Input F	No data
	22	! * * B D I S P Cr	Displays the status	No data
	23	! * * B V P L S Cr	Turns the volume up	No data
	24	! * * B V M N S Cr	Turns the volume down	No data
	25	! * * B V O L x x Cr	Adjusts the volume	0 – 30
	26	! * * B A M U T E x x Cr	Turns muting on/off	00: Off, 01: On
	27	! * * B A S P x Cr	Selects the aspect ratio	0: REGULAR, 1: FULL, 2: ZOOM, 3: PANORAMIC, 4: REAL DOT
	28	! * * B A S P T Cr	Changes the aspect ratio	No data
	29	! * * B P I C M O D E x Cr	Selects the picture mode	0: DYNAMIC, 1: NORMAL, 2: USER
	30	! * * B P I P x Cr	Turns on/off the PIP mode	0: Off, 1: On
	31	! * * B P B P x Cr	Turns on/off the PBP mode	0: Off, 1: On

* These commands can be used while the monitor is on standby.

- “*” is monitor’s ID. Normally, set to “00.”
- Enter the appropriate data to “xx” or “x.”
- “Cr” is 0Dh.

<Specifications of the RS-485 terminal>

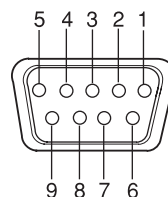


This is a female terminal.

Pin No.	IN terminal signal	OUT terminal signal
1	TXD +	TXD +
2	TXD –	TXD –
3	RXD +	RXD +
4	NC	NC
5	NC	IR. OUT
6	RXD –	RXD –
7	5 V power	NC
8	GND	GND

- The 5V power supply of the 7th terminal is for the dedicated controller. Do not use it for other devices.

<Specifications of the RS-232C terminal>



This is a female terminal.

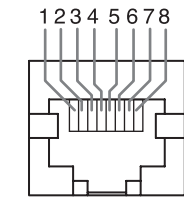
Pin No.	Signal
1	—
2	RD (Receive Data)
3	TD (Transmit Data)
4	—
5	GND (Ground)
6	—
7	RTS
8	CTS
9	—

- The 7th terminal and the 8th terminal are connected.

How to Use External Control (cont.)

Using the MAKE/TRIG. system

The RS-485 IN terminal is configured as follows. You can assign the functions to each pin terminal by setting "REMOTE SYSTEM" (see "PORT F1 – PORT F5" on page 27).



This is a female terminal.

Pin No.	Pin name
1	PORT F1
2	PORT F2
3	PORT F3
4	PORT F4
5	PORT F5
6	ENABLE
7	NC
8	GND

To assign the functions to the pin terminals

For the operation procedure, see page 19.

1. Select "REMOTE SYSTEM" on the set-up menu.
2. Set "CNT. RJ45 IN" to "SET."
3. Select a pin name ("PORT F1" – "PORT F5") which you want to assign a function, and then select the function you want to assign.
 - For functions which can be assigned, see the table below.

Functions controlled by MAKE/TRIG. system

Display	Functions to be controlled	Opening	Short-circuiting
INP. A	Changes the input to Input A.	Invalid	Valid
INP. B	Changes the input to Input B.	Invalid	Valid
INP. C	Changes the input to Input C.	Invalid	Valid
INP. D	Changes the input to Input D.	Invalid	Valid
INP. E	Changes the input to Input E.	Invalid	Valid
INP. F	Changes the input to Input F.	Invalid	Valid
POWER	Turns on/off the monitor.	Power on	Power off
ASPECT	Changes the aspect ratio.	REGULAR	FULL
MUTING	Turns off or resumes the volume.	Muting off	Muting on
PIP	Turns on/off the PIP mode (see page 18).	Invalid	Valid
PBP	Turns on/off the PBP mode (see page 18).	Invalid	Valid
---	No function	—	—

NOTE

- You cannot assign the same function to different pin terminals.
- The TRIG. (trigger) system switches each function by short-circuiting for approx. 1 second.

Operation

1. Short-circuit the 6th pin terminal (External control) to the 8th pin terminal (GND) so that the monitor can be controlled by the external control.
2. Set "CNT. RJ45 IN" of "REMOTE SYSTEM" to "MAKE" or "TRIG." on the set-up menu.
3. When selecting "MAKE" (make contact) system:

Operate each function by short-circuiting the corresponding pin terminal to the 8th pin terminal (GND) or opening it.

When selecting "TRIG." (trigger) system:

Operate each function by Pulse control, that is short-circuiting the corresponding pin terminal to the 8th pin terminal (GND) for about 1 second.

NOTE

- When controlling INP. A/B/C/D/E/F, only one terminal must be short-circuited. (Other terminals must be opened.)
- When switching PIP and PBP modes, open the mode which has been shortcircuited before shortcircuiting the mode you want to make valid.
- When selecting the "TRIG." (trigger) system, you can operate only one function at a time. Operate the functions one by one.

Troubleshooting

Solutions to common problems related to the monitor are described here. If none of the solutions presented here solves the problem, unplug the monitor and consult an authorized dealer or service center.

Self-diagnostic lamp lights (flashes).

⇒ See page 40 for details.



Power is not supplied.

- ⇒ Is the power cord connected (see page 15)?
- ⇒ Is the main power switch (POWER) turned on (see page 16)?

No picture.

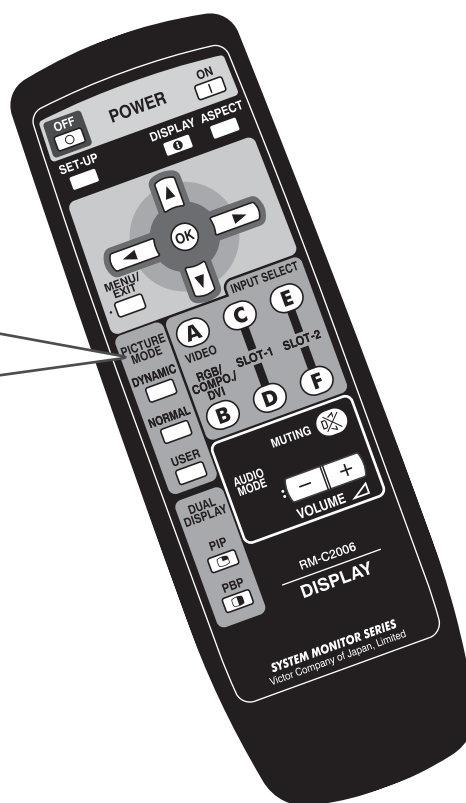
- ⇒ Is the correct input selected (see page 16)?
- ⇒ Are the devices connected correctly (see pages 14 and 15)?
- ⇒ Are signals being input from the connected devices?
- ⇒ Is brightness adjusted correctly (see page 21)?

No sound.

- ⇒ Is the volume set at minimum (see page 16)?
- ⇒ Is the muting function activated (see page 16)?

The remote control does not work.

- ⇒ Are the batteries installed correctly (see page 6)?
- ⇒ Are the batteries exhausted?
- ⇒ Is the front end of the remote control pointing toward the remote sensor?
- ⇒ Is there any object blocking the path between the remote control and the remote sensor?
- ⇒ Is the monitor too far away from you?



Symptom	Probable cause and corrective action	Page
Power is suddenly turned on or off.	The power-on/off timer is activated. Deactivate the timer.	29
The picture becomes blurred.	- For RGB input, adjust "DOT CLOCK" and "CLOCK PHASE" on the main menu. - If the connection cable used for RGB terminal is long, set "SYNC TERM." to "LOW."	21 • 29
Color is abnormally bright or dark.	- Adjust the picture quality on "PICTURE SETTING" of the main menu. - If "TEMP. OVER" is displayed, follow the procedure described on page 40.	21 • 40
Color is poor or unstable.	Select the correct color system.	25
The picture is cut or shifted toward one side.	- Input signals (scanning frequency, etc.) are not appropriate. - Adjust the size and position properly.	12 • 21
Menu does not appear or disappears quickly.	When "INPUT B" of "INPUT CONFIGURATION" is set to "COMPONENT" with a personal computer connected to the RGB/COMPO. terminal, the menu operation is not available. Select another input to operate the menu.	23
Some items are not shown on the menu.	Items not available for the current input signal are not displayed. Change the input or signal format. Some items are displayed only when the corresponding optional input card is inserted.	—
"PLEASE ENTER PASS ID" appears when trying to turn on the monitor.	The Security Lock is activated. Enter the password to turn on the monitor, and then deactivate the Security Lock.	27, 32
Buttons on the main unit do not work.	The Control Lock is activated. Deactivate it.	29

The following are not malfunctions:

Pixel defects

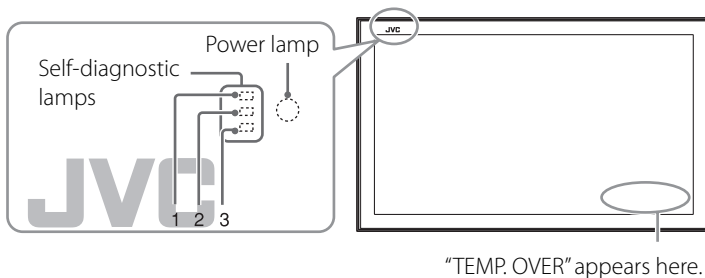
LCDs use collections of fine points ("pixels") to display images. While there is no problem with more than 99.99% of these pixels, please understand that a very small number of pixels may not light, or may light all the time.

The following cases are only problems if an abnormality occurs on pictures or sounds as well:

- A slight electric shock occurs when you touch the monitor.
- The top and/or rear panel of the monitor becomes hot.
- The monitor emits a cracking sound.
- The monitor emits a strange sound.

Self-diagnostic indication

When something abnormal occurs with the monitor, this function informs you of the condition of the monitor with the self-diagnostic lamps, allowing for smooth service work.



If the monitor screen turns off and the self-diagnostic lamps light or flash

If the self-diagnostic lamps light or flash in red, check the following before consulting the dealer where you purchased the monitor.

- If the self-diagnostic lamp 1 (upper) flashes, lamp 2 (middle) lights, and lamp 3 (lower) flashes

This may be caused by the dusty intakes on the rear. If this happens, switch off the main power using the POWER switch (set to "O (off)"), unplug the AC power cord, then clean the intakes by referring to the instruction on page 5.

After cleaning, switch on the monitor's main power again. If the self-diagnostic lamps do not go off, consult your dealer immediately.

If the monitor screen dims a little and "TEMP. OVER" appears (or flashes)

If "TEMP. OVER" appears or flashes at the right bottom of the screen, check the following before consulting the dealer where you purchased the monitor.

"TEMP. OVER" appears to warn you of internal heat buildup, which is usually caused by accumulated dust around the intakes or by improper installation. If the cause of the internal heat buildup is eliminated, this indication disappears and the screen returns to normal brightness.

- If "TEMP. OVER" flashes in yellow

This may be caused by the dusty intakes on the rear. If this happens, switch off the main power using the POWER switch (set to "O (off)"), unplug the AC power cord, then clean the intakes by referring to the instruction on page 5.

– After cleaning, switch on the monitor's main power again.

If "TEMP. OVER" still flashes, this problem may be caused by improper installation or improper location of the monitor. In this case, consult your dealer immediately to solve this improper installation and to improve the circumstances around the monitor.

- If "TEMP. OVER" appears in red

"TEMP. OVER" will be shown for about two minutes, the monitor will shut off automatically, then the self-diagnostic lamps light in red. If this happens, switch off the main power using the POWER switch (set to "O (off)"), unplug the AC power cord, then consult your dealer immediately.

If the trouble still persists, follow the procedure below:

1 Check which lamps are lit or flashing.

On the Self-diagnostic Report Sheet (below), check the box next to "Lights" or "Flashes" of the corresponding lamp or lamps.

- Only one lamp may light or flash, or all three lamps may do so.

2 Switch off the POWER switch on the back of the monitor.

3 Unplug the power cord.

4 Call your dealer and tell them which lamps are lit or flashing. (Copy and fax the Self-diagnostic Report Sheet below.)

NOTE

- If you switch on the main power immediately after switching it off (or after recovering from a brief power interruption), the self-diagnostic lamps may light (or flash), and no image may appear on the screen. In this case, switch off the main power again, wait for about 10 seconds, then switch it on again. If no self-diagnostic lamps light or flash, you can operate and use the monitor as usual.

Self-diagnostic Report Sheet

Store name where you purchased the monitor

To

Model name: LCD DISPLAY MONITOR GM-H40L2A

The self-diagnostic lamps light or flash as listed on the following table. Please give me immediate advice or service if necessary.

Self-diagnostic lamp			
No.	Lamp position	Conditions	
1	Upper	☐ Lights	☐ Flashes
2	Middle	☐ Lights	☐ Flashes
3	Lower	☐ Lights	☐ Flashes
TEMP. OVER		☐ Lights	☐ Flashes

Your Name	
Telephone No.:	
Address:	

General

Model name	GM-H40L2A
Screen size	Type 40 wide format
Aspect ratio	16:9 (Wide format)
LCD panel	40" wide, active matrix TFT
Effective screen size (W x H, Diagonally)	885 mm x 498 mm, 1 015 mm
Number of pixels displayed	1 366 (H) x 768 (V)
Number of colors displayed	16.77 million (256 colors for each of RGB)
Viewing angle (TYP.)	170° (Horizontally), 170° (Vertically)
Brightness (TYP.)	400 cd/m ²
Contrast ratio (TYP.)	800:1
Response time	less than 20 msec (Tr + Tf)
Weight	27.2 kg
External dimensions (W x H x D)	986 mm x 595 mm x 126 mm
Power requirements	AC 120 V/AC 220 – 240 V, 50 Hz/60 Hz
Rated input current	2.4 A (AC 120 V) 1.5 A (AC 220 – 240 V)
Compatible signals	See page 12.
Audio power output	Internal: 1.7 W + 1.7 W (at impedance 8 Ω) External: 6 Ω – 8 Ω, 2.2 W + 2.2 W (at impedance 6 Ω)
Speaker	Ellipse (40 mm x 70 mm) x 2, impedance 8 Ω
Operating conditions	Temperature: 0°C – 40°C Relative humidity: 20% – 80% (non-condensation) (Slightly variable depending on ambient conditions for installation.)

Input/output terminals

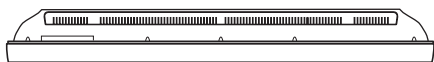
VIDEO IN A	Video input	BNC terminal x 1	1 V (p-p), 75 Ω
		Y/C terminal x 1	Y: 1 V (p-p), 75 Ω C (BURST): 0.286 V (p-p), 75 Ω (for NTSC) 0.3 V (p-p), 75 Ω (except for NTSC)
VIDEO IN B	Video output	BNC terminal x 1	1 V (p-p), 75 Ω
	RGB/COMPONENT input	D-sub 3-row 15-pin x 1 (RGB is compatible with DDC2B.)	
	Video signal		G, Y: 1 V (p-p), 75 Ω (including sync) B, R, Pb/Cb, Pr/Cr: 0.7 V (p-p), 75 Ω
	Horizontal sync (HD)/Composite sync (Cs)		HD: 0.3 V (p-p) to 5 V (p-p), 1 kΩ (positive/negative polarity) Cs: 0.3 V (p-p) to 5 V (p-p), 1 kΩ (positive/negative polarity)
	Vertical sync (VD)		VD: 1 V (p-p) to 5 V (p-p), 1 kΩ (positive/negative polarity)
AUDIO IN A	DVI input	DVI-D terminal x 1 (Compatible with DDC2B)	
	Audio input	Pin jack terminal x 2 (L/R)	500 mV (rms), high impedance
	Audio input	Stereo mini jack terminal x 1	500 mV (rms), high impedance
REMOTE	RS-232C input	D-sub 9-pin terminal x 1 (For RS-232C control)	
	RS-485 input	RJ-45 pin terminal x 1 (For RS485, MAKE, and TRIGGER control)	
	RS-485 output	RJ-45 pin terminal x 1 (For RS485 and IR OUT control)	
AUDIO OUT	MONITOR OUT	Pin jack terminal x 2 (L/R)	Output impedance 600 Ω
	EXT. SPEAKER	Speaker output terminal (L/R)	Impedance 6 Ω to 8 Ω

Specifications (cont.)

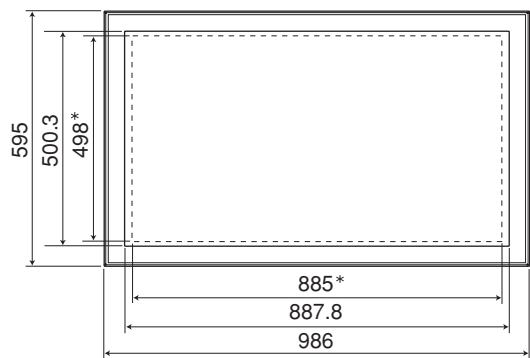
Dimensions

Unit: mm

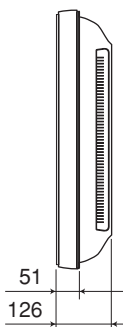
Top view



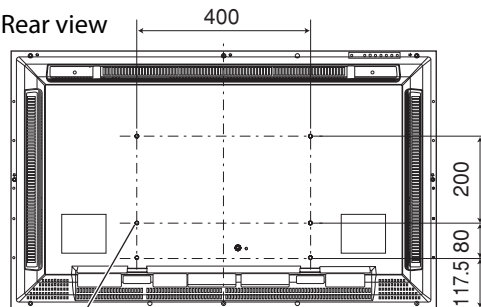
Front view



Side view



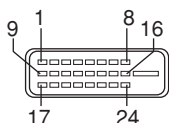
Rear view



Screw hole for optional installation unit.
Screw size: 6 – M6, depth: 20 mm

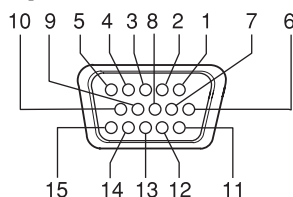
* Effective screen size

Specifications of the DVI-D terminal



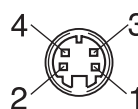
Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
1	T.M.D.S Data 2–	9	T.M.D.S Data 1–	17	T.M.D.S Data 0–
2	T.M.D.S Data 2+	10	T.M.D.S Data 1+	18	T.M.D.S Data 0+
3	T.M.D.S Data 2/4 shield	11	T.M.D.S Data 1/3 shield	19	T.M.D.S Data 0/5 shield
4	NC	12	NC	20	NC
5	NC	13	NC	21	NC
6	DDC Clock	14	+5 V Power	22	T.M.D.S Clock shield
7	DDC Data	15	GND	23	T.M.D.S Clock+
8	NC	16	Hot Plug Detect	24	T.M.D.S Clock–

Specifications of the RGB/COMPO. terminal



Pin No.	Signal name	Pin No.	Signal name
1	Red	9	+5V
2	Green	10	GND
3	Blue	11	GND
4	N/C	12	DDC Data
5	GND	13	HD/Cs
6	GND	14	VD
7	GND	15	DDC Clock
8	GND	External	GND

Specifications of the Y/C IN terminal



Pin No.	Signal name
1	GND (Y)
2	GND (C)
3	Y
4	C

Options (not supplied)

Stand Unit TS-CL03SG

Wall Mounting Unit TS-CV20WG

• Consult your dealer to see if other options are available.

Notice on transportation

This monitor is precision equipment and needs dedicated packing material for transportation.

Never use any packing material supplied from sources other than JVC or JVC-authorized dealers.

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GM-H40L2A LCD DISPLAY MONITOR JVC
